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Matches 165;
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                                                                                                                                                                                                                       New host cell producing recombinant large scale production of EPO.
                                                                                                                                                                                                                                                                                                                                                             06-NOV-1998;
23-FEB-1999;
                                                                                                                                                                                             Claim 1;
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                                                          Sequence 165
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Best Local
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                                                                                                                                                                                                                                                                                                                                 mammalian cells. The method comprises culturing mammalian cells which express recombinant human EPO in culture medium comprising insulin. Erythropoietin can be used to treat anaemia derived from renal failure. The method allows for the industrial scale production of EPO, and overcomes the problems of low reproducibility and output quality which are encountered with previous production methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This sequence represents the human erythropoletin amino acid sequence. Erythropoletin is a glycoprotein that stimulates erythroblast differentiation in the bone marrow. The present invention relates to a method for the large scale production of human EPO from recombinant
                                                                                                                                                                                                                                                                                             Sequence 165 AA;
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PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165

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                                                                                      Matches 165;
                                                                                                 Query Match
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                                                                                                                                                                        The present invention relates to a method for purifying erythropoietin (EPO) for treatment of disease, especially anaemia. The method involves treating cell culture supernatants with differential precipitation, hydrophobic interaction chromatography, diafiltration, anionic and cationic exchange chromatography and molecular exclusion chromatography. The present sequence is the protein from the culture supernatant of transfected cell lines, after purification by the above process. The sequence shows total homology with natural human EPO. The advantage of this method is that high purity and quality EPO is produced. A further advantage is that the process does not involve the use of organic
                                                                                                                                      Sequence 165
                                                                                                                                                                                                                                                                                                              Claim 16; Page 18; 30pp; English.
                                                                                                                                                                                                                                                                                                                                       Novel methods for purifying recombinant human erythropoietin from mammalian cell culture reagents.
                                                                                                                                                                                                                                                                                                                                                                              WPI;
                                                                                                                                                                                                                                                                                                                                                                                                   Carcagno CM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-NOV-1998;
23-FEB-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; erythropoietin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human erythropoietin.
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                                                                                                                                                             solvents that may
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                                                                                                  Similarity
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VEVWQGLALLSEAVLRGQALLVNSSQFWEFLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                     APPRLICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                   APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                      Conservative
                                                                                                                                      A,
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                                                                                                                                                                                                                                                                                                                                                                                                     Criscuolo M,
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99AR-00100680.
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126
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                                                                                                                                                             harm the environment
                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "O-Glycosylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "N-Glycosylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EPO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "N-Glycosylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "N-Glycosylation
                                                                                                                                                                                                                                                                                                                                                                                                     Melo C,
                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   purification; anaemia.
                                                                                    Score 846; DB 3;
Pred. No. 1.9e-86;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                     Vidal JA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   site"
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                                                                                                            Length 165;
                                                                                      Indels
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APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA APPRLICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA

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Best Loc
Matches
                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence is a non-glycosylated erythroprotein analogue (NGEA) designated NGE-166delta. The protein sequence is identical to the sequence of wild-type human non-glycosylated erythroprotein NGE except that Arg at position 166 is deleted. NGE promotes erythropoiesis and can therefore be used to increase hematocrit levels in mammals with conditions such as anaemia, in which levels of haematocrit are insufficient. NGE analogues can also be used to treat such conditions. NGEAs do not themselves cause a significant increase in haematocrit but they acquire that property once they are derivatised with polyethylene glycol polymers. The analogues can be produced using a linkerless aldehyde modification process. They show stability and bioactivity in the property acquire that property once they are derivatised with polyethylene glycol polymers. The analogues can be produced using a linkerless aldehyde modification process. They show stability and bioactivity in
                                                                                                                                                                                                                                          vivo. The nucleotide sequence encoding this protein was constructed synthetically by in vitro hybridisation using a set of six overlapping oligonucleotides from the positive strand of human erythropoietin cDNA with six complementary oligonucleotides (negative strand). The codon usage was 100% optimised for E. coli codon usage. The hybridised oligonucleotides were ligated with T4 DNA ligase and the ligation product amplified by PCR. The nucleotide sequence was used to express the protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 2; Page 93-94; 94pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
Synthetic.
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                                                                                                                                       Sequence 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            anemia, comprises protein covalently bonded to polymer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Non-glycosylated erythropoietic compound useful for level in mammal with insufficient hematocrit levels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB; AAA48373
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-SEP-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ELIL ) LILLY & CO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                           A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98US-0110289P
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                             100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Micanovic R,
Score 846; DB 3;
Pred. No. 1.9e-86;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Millican RL,
                                                                 Length 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         increasing hematocrit in conditions such as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Witcher DR;
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PR 22-C
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                                                                                                                                                                                                                                                                                                                         Query Match
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Matches 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence encodes a human erythropoietin (EPO) protein. The specification describes a composition for the sustained release of biologically active EPO stimulating protein (NESP). The reduced frequency of administration of NESP, which requires preferably injection by skilled personnel, improves patient compliance. Also, sustained release reduces the nature and severity of any side effects of the drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sustained release composition comprises an active biological ingredient, notably a protein or other biopolymer, particularly erythropoietin stimulating protein, in biocompatible, biodegradable polymeric
                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 56; 61pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-417552/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Burke
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13-OCT-2000; 2000US-00687981.
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                                                                                                                                                                                                                                                                                                                                                                                                                                165
                           PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                       VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                      VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                              APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             release
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Klumb L,
                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                ΑĀ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of human erythropoietin (EPO) protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
                                                                                                                                                                                                                                                                                                                                                  100.0%;
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                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                   Score 846; DB 4;
Pred. No. 1.9e-86;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Herberger J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA
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RESULT 7
AAB66697
ID AAB6
XX
AC AAB6
XX
DT 06-A
XX
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Best Local Similarity
Matches 165; Conserv
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23-AUG-1999;
31-AUG-1999;
17-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                     This invention relates to new conjugate having a modified erythropoietin glycoprotein, useful for stimulating red blood cell production, and for treating or preventing diseases correlated with anaemia in chronic renal failure, AIDS or cancer patients. The present sequence is a protein related to the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                New conjugate having modified erythropoietin glycoprotein useful stimulating red blood cell production and for treating diseases correlated with anemia in chronic renal failure, AIDS or cancer property.
                                                                                 AAB66697 standard;
                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-135308/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Erythropoietin glycoprotein; anaemia; chronic renal
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABB83621;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NO200003372-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein #1
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                                                                                                                                                                                                                                                   APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                        VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                   APPRLICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                165 AA;
                                                                                                                                           PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         relating to modified
                                                                                                                                                                                                                                                                               100.0%; Score 846; DB 4; ilarity 100.0%; Pred. No. 1.9e-86; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                          Page 21-22; 30pp;
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99US-0150225P.
99US-0151548P.
99US-0166151P.
                                                                                protein;
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                                                                                                                                                                                                                                                                                                      Length 165;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   failure; AIDS;
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Human erythropoietin protein

#1.

06-APR-2001

(first

entry)

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RESULT 8
AAM53061
ID AAM5
XX AAM5
AC AAM5
XX DT 25-M
DT 25-M
DX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
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05-AUG-1999;
30-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present invention relates to a conjugate comprising, human erythropoietin glycoprotein (ERP) having at least one free amino group and having in vivo biological activity of causing an increase the production of reticulocytes and red blood cells, covalently linked to 1-3 lower-alkoxy poly(ethylene glycol) groups through a linker. The invention is useful for preparation of medicaments for the treatment of prophylaxis of disease correlated with anemia in chronic renal failure patients (CRF), AIDS and for the treatment of cancer patients undergoing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Burg
                                                    blood disorder; anaemia; chronic renal failure; CRF; AIDS; acquired immunodeficiency syndrome; cancer chemotherapy; haemostatic;
                                                                                                             Human erythropoietin (hEPO), 165 residue form.
                                                                                                                                                                       AAM53061;
                                                                                                                                                                                                  AAM53061 standard; protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 19; Fig 1; 40pp; English.
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                                                                                   Human; erythropoietin;
                                                                                                                                            25-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel erythropoietin-glycoprotein conjugate useful for treating diseases correlated with anemia in chronic renal failure patients, AIDS and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-JUN-2000;
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                                                                                                                                                                                                                                                                        121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 165;
                                                                                                                                                                                                                                                                                                                                                                                        <u>ب</u>
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                                                                                                                                                                                                                                                                                                                                                                                                          APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cancer,
                                                                                                                                                                                                                                                                                                  PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                           VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hilger B,
                                                                                                                                                                                                                                                                        PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                                                                                              VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                        APPRLICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B,
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                                                                                                                                           (first entry)
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99US-0147452P.
99US-0151454P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          is linked to polyethylene
                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ROCHE & CO
                                                                   BPO; hEPO; haemostatic; r
a; chronic renal failure;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 846; DB 4;
Pred. No. 1.9e-86;
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                                                                                                                                                                                                  B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           glycol through
                                                                      red blood cell;
; CRF; AIDS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                        165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AIDS an linker.
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S 문 Ś 밁 5

121

PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165

VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120 APPRLICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA

120

60 60

0

61

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APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA

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CC a C-terminal fragment of human chorionic gonadotropin (AAMS3063).

CE Erythropoietin is a glycoprotein essential for the formation of red blood cells and is therefore useful in the treatment of blood disorders compositions of the invention can be used in the treatment and prevention of anaemia in chronic renal failure patients (CRP), AIDS (acquired compositions of the invention can be used in the treatment and prevention of anaemia in chronic renal failure patients (CRP), AIDS (acquired communodeficiency syndrome), and/or for the treatment of cancer patients cundergoing chemotherapy. Unlike prior art erythropoietin compositions, compositions of the invention do not contain human serum albumin (thereby avoiding the possibility of viral infections and allergic compositions associated with this component), are liquid rather than compositions associated with this component), are liquid rather than compositions and allergic composition and are stable at elevated temperatures such as 25 composition and are stable at elevated temperatures such as 50 composition and even 40 degrees Celsius, and therefore can be stored without refrigeration for prolonged periods without degradation and loss composition of the invention specifically claimed for use in a composition of the invention
  Matches
                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to liquid pharmaceutical compositions comprising erythropoietin (EPO) protein, a multiple negatively charged inorganic anion in a buffer which maintains the pH of the solution from 5.5-7.0, and optionally at least one excipient. The erythropoietin used in the composition is preferably human (AAM53061 or AAM53062) a human erythropoietin variant containing additional glycosylation sites (AAM53064-AAM53107), or an erythropoietin with the C-terminal addition
                                                                             Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Composition useful in the treatment of e.g. AIDS comprises an erythropoietin protein, and a multiple charged inorganic anion
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 28; Fig 1; 64pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-MAY-2000; 2000EP-00110355.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (HOFF ) HOFFMANN LA ROCHE & CO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modified-site
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                    Local
  165;
                    Similarity
                                                                             165 AA;
  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "N-glycosylated" 29. .33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "O-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 note= "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note= "N-glycosylated"
                    100.0%;
0
                Score 846; DB 5;
Pred. No. 1.9e-86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ĀG
  Mismatches
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                                    Length 165;
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PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165

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                                                                                                                                                                                                                                                                                                                                                                                                                               hEPO is modified by addition of 1-6 glycosylation sites or a rearrangement of a glycosylation site. The glycoprotein is covalently linked to a poly(ethylene glycol) group. The EPO glycoprotein has in vivo biological activity of causing bone marrow cells to increase production of reticulocytes and red blood cells. The conjugate increased circulating half-life and plasma residence time, decreased clearance, increased clinical activity in vivo, improved potency and stability, when compared to unmodified EPO. The EPO conjugate is useful for preparing medicaments for the treatment and prophylaxis of diseases correlated with anaemia in chronic renal failure patients (CRI), acquired immunodeficiency syndrome (AIDS) and for treating cancer patients undergoing chemotherapy. It is also useful for treating patients by stimulating the division and differentiation of committed erythroid progenitors in the bone marrow
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence represents a human erythropoietin (EPO) protein. It was used to produce conjugates of the invention. The specification describes a conjugate comprising an EPO glycoprotein having an N-terminal alpha-amino group, chosen from human EPO (hEPO) or its analogues (where
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  red blood cell production; anaemia;
acquired immunodeficiency syndrome;
                                                                                                                                                                                                                                                                                                                                                                             Sequence 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 26; Fig 1; 40pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel conjugate of erythropoietin glycoprotein with useful for treating diseases correlated with anemia
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red blood cell production; anaemia; chronic renal failure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Amino acid sequence of a human erythropoietin (EPO).
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   VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                         APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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Pred. No. 1.9e~86;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence represents human erythropoietin (EPO). EPO is used CG as the active agent in formulations of the invention. The specification CG describes a pharmaceutical formulation, which comprises a biologically active agent (e.g. EPO or novel crythropoiesis stimulating protein CD (NESP)), methionine and a preservative. The formulation does not contain human serum albumin (HSA). The formulation has improved stability. CC Incorporation of methionine and other stabilizing agents into the formulation produces a more stable formulation, even in extreme CC conditions, where the critical degradations induced by light, heat, impurities in additives, leacheates in the prefilled syringes, the communicaturing process, storage, transportation and handling are cormulation. Where NESP is the active agent, it may be used to raise to the communication. Where NESP is the active agent, it may be used to raise
                                                                                                                                                                                                                                                                                                                                                          Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pharmaceutical formulation for single use comprises biologically agent, methionine and optional preservative and does not contain
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                                                                                                                                                                                                                                                                                                                                                          Conservative
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Pred. No. 1.9e-86;
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                                                                                                                                                                                                                                                                                                                                                                         Novel erythropoietin mutein having in vivo biological activity of causing bone marrow cells to increase production of reticulocytes/red blood cells, is N-glycosylated at Asn38 and Asn83 but not N-glycosylated at
                                                                                                               Sequence 165
                                                                                                                                                                                                                                                                                                   The invention relates to an erythropoietin mutein (I) having the in vivo
                                                                                                                                                                                                                                                                                                                              Claim 6; Page 21-22; 22pp; English
                                                                                                                                                                                                                                                                                                                                                            Asn24.
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APPRLICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                      Score 846; DB 6;
Pred. No. 1.9e-86;
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APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA

Query Match Best Local S Matches 165

Local Similarity

100.0%; ilarity 100.0%; Conservative 0

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Score 846; DB 8; Pred. No. 1.9e-86; Mismatches 0;

Length 165; Indels

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165 AA;

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                                                                                     activation or an erythropoeitin analogue such as darbepoietin alpha. The cerythropietin protein used in the method may also be modified by the addition of 1-6 glycosylation sites, or by pegylation. Patients with CC diabetes have been found to have a high probability of be affected by the CC disturbances of iron distribution. In such patients, the overall compared with consitions such as anaemia), but the individual may suffer the effects of iron caccumulation in certain organs, leading to organ damage and destruction, CC and/or experience effects similar to anaemia due to iron usage in blood cell formation being impaired. Erythropoietin causes bone marrow cells to increase production of reticulocytes and red blood cells, and this has come found to have a beneficial effect on iron distribution disturbances in diabetes e.g., non-insulin dependent (type 2) diabetes. Erythropietin proteins may therefore be used to manufacture a medicament for the treatment of disturbances of iron distribution in diabetes. The present sequence represents a 165 amino acid human erythropoietin which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to the use of an erythropoietin (EPO) protein for the treatment of disturbances of iron distribution in diabetes. The erythropoietin protein is preferably a human erythropoietin (e.g., epoetin alpha and epoetin beta) which may be expressed by endogenous gene epoetin alpha and expressed by endogenous in the expression of the expres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Use of erythropoietin protein in manufacture of medicament disturbances of iron distribution in diabetes.
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non-insulin dependent diabetes; type 2 diabetes; reticulocyte production;
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05-NOV-2002; 2
06-JAN-2003; 2
19-FEB-2003; 2
                                                                                                                                                                                                                                                                                                   This invention relates to novel erythropoietin (EPO) peptides and the remodelling and glycoconjugation of these naturally occurring peptides thereof. Specifically, each EPO peptide comprises one or more glycans and has a glycoconjugate molecule such as polyethylene glycol (PEG) attached to it. Accordingly, the present invention provides glycoPEGylated EPO peptides that have either monoantennary, biantennary or triantennary glycans covalently attached thereto. As such, these peptides are useful for the treatment of anaemia, and hence exhibit antianaemic activities working to increase haematorit levels in mammals, in particular in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel erythropoietin peptide comprising one glycoconjugate molecule covalently attached treating anemia in mammal such as human.
                                                                                                                                                                                           humans i.e. increasing the relative volume of blood occupied by erythrocytes. Furthermore, EPO therapy can be used to treat kidney dialysis patients. This polypeptide is a human protein sequence related to the field of haematology, given in an exemplification of the
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                                                                                          erythropoletin protein is preferably a human erythropoletin (e.g., C epoetin alpha and epoetin beta) which may be expressed by endogenous gene activation or an erythropoletin analogue such as darbepoletin alpha. The cartivation or an erythropoletin analogue such as darbepoletin alpha. The cartivation of 1-6 glycosylation sites, or by pegylation. Patients with cheart diseases have been found to have a high probability of be affected by discurbances of iron distribution. In such patients, the overall concentration of iron in the body is normal (compared with conditions such as anaemia), but the individual may suffer the effects of iron cacumulation in certain organs, leading to organ damage and destruction, and/or experience effects similar to anaemia due to iron usage in blood cell formation being impaired. Erythropoletin causes bone marrow cells to concrease production of reticulocytes and to lood cells, and this has compared production of reticulocytes and conditions and this has compared production of reticulocytes and conditions and this has compared production of reticulocytes and conditions and this has compared production of reticulocytes and conditions and this has compared productions, acute coronary syndrome, heart failure and congestive constructions.
heart failure. Erythropoietin proteins may therefore be used to manufacture a medicament for the treatment of disturbances of iron distribution in heart diseases. The present sequence represents a 165 amino acid human erythropoietin which is specifically claimed for use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Use of erythropoietin protein treating disturbances of iron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               acute coronary syndrome; reticulocyte production;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-AUG-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 6; SEQ ID NO 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lehmann P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-NOV-2002; 2002EP-00026342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-NOV-2003; 2003WO-EP012822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO2004047858-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; erythropoietin; EPO; iron distribution disturbance;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human 165 residue erythropoietin (EPO),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (HOFF ) HOFFMANN LA ROCHE & CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           invention relates to the use of an erythropoietin (EPO) treatment of disturbances of iron distribution in heart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2004-450212/42.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               insufficiency; coronary heart disease; atherosclerosis;
coronary syndrome; heart failure; congestive heart failure;
ulocyte production; red blood cell production; cardiant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Walter-Matsui
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in the manufacture of medicament for distribution in heart diseases e.g. 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ā
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein for diseases. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         e.g. heart
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                                                                                                                                    Query Match
Best Local
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Best Local
                                                                                                             Matches
                                                                                                                                                                                                                                                               All of the Cys residues in the SQ are labelled "SH". Megakaryocyte-platelet growth factor contains human EPO as an active principle. Human EPO has a megakaryocyte colony-stimulating activity and increases the ratio of small acetyl cholinesterase positive cell (SAcEH) which is immature megakaryocyte. Human EPO effects megakaryocyte-platelet system other than an erythrocyte growth effect. Megakaryocyte-platelet growth is usable as a remedy for diseases caused by a platelet decrease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-AUG-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mega-karyocyte-platelet growth factor; hormone; mega-karyocyte colony stimulating factor; therapy; small acetyl cholinesterase positive cell; erythrocyte growth effect.
                                                                                                                                                                                                                    Sequence 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 181;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         platelets.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Megakaryocyte-platelet growth factor - contains as active component erythropoietin and is used to treat diseases caused by decrease in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence of human erythropoietin (EPO)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19-FEB-1991
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                                                                                                             165;
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                                  APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
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Pred. No. 1.9e-86;
); Mismatches 0;
                                                                                                       Score 846; DB 1;
Pred. No. 1.9e-86;
; Mismatches 0;
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ARESULT 16
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XX ACCOMMENDED RECOMMENT
XX HOMO
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XX III-3
CC AMMIC

                                                                                                                                                                                                                                                                                                                                                                                           This protein sequence given comprises the entire amino acid sequence of CC human erythropoietin (EPO). EPO leads to the maturation of erythrocytes and is therefore designated as a late myeloid differentiation factor CC (MDF). Within the scope of the invention hybrid molecules were produced which contain at least a portion of an early MDF and at least a portion of a late MDF covalently linked. The EPO sequence given is effective within the scope of the invention in full or in a truncated version. CC Amino acids 7-161 act as a late MDF when recombined with an early MDF eg. IL-3. These compounds can be used to promote heamatopoiesis in a patient. CC The bonding of the early and late factors allows a very high conc. of late MDF at the surface of a cell which the early MDF is bound. It also allows the early MDA to act more specifically to stimulate only the desired lineage, thus reducing undesirable effects. These compounds are useful for treating anaemias of various origins eg.renal failure and AIDS. It is easier to produce and administer one recombinant molecule
                                                                                                                                                                                                     Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Recombinant haematopoietic molecules useful in treating anaemia(s) comprise IL3 or GM-CSF and EPO, G-CSF, IL-5 or M-CSF and has early later myeloid differentiation activity.
                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                   APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                     APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                                                                                                             Score 846; DB 2;
Pred. No. 1.9e-86;
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VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS

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121

PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD

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                                                                                                                                  CC comprises a modified EPO amino acid sequence given in AAW58404, where (a) coptionally 1-6 amino acids from the N-terminus and 1-5 from the C-terminus can be deleted, (b) the N-terminus is joined to the C-terminus CC terminus can be deleted, (b) the N-terminus is joined to the C-terminus CC terminus to the C-terminus, (c) there are new C- and N-termini at any two CC consecutive amino acids from amino acids 23-24 to 38-39, 40-41 to 41-42, CC 43-44 to 48-49, 50-51 to 57-58, 77-78 to 82-83, 84-85 to 88-89, and 108-CC consecutive amino acids from anino acids 23-24 to 38-39, 40-41 to 41-42, CC 43-44 to 48-49, 50-51 to 57-58, 77-78 to 82-83, 84-85 to 88-89, and 108-CC molecules (see AAW58413-72) are claimed. Also claimed are: nucleic acid colocules (see AAW58413-72) are claimed. Also claimed are: nucleic acid colocules (see AAW58971-V31030) encoding novel EPO receptor agonists; a cc transfected host cells, and methods for stimulating the production of the EPO receptor agonists. The EPO receptor agonists retain one or more activities of native EPO and may also show improved haematopoietic cell-colocule reduction of undesirable biological activities associated with cative EPO and/or have improved physical properties such as increased cc solubility, stability and refold efficiency
                                            Query Match
Best Local Sim
Matches 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human erythropoietin receptor agonist polypeptide - used to production of red blood cells in a patient.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page 93; 112pp; English
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                                            Score 846; DB 2;
Pred. No. 1.9e-86;
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naematopoletic receptor agonist.

R2, R2-L1-R1, R1-R2 or R2-R1, where L is a linker and R1 and R2 are independently selected from: (a) the human EPO receptor agonist; (b) a human stem cell factor receptor agonist polypeptide (see AAW77781); (c) a human fit-3 receptor agonist polypeptide (see AAW77782); (d) a modified human granulocyte colony stimulating factor (G-CSF) polypeptide (see AAW77784); (f) modified human interleukin-3 polypeptide (see AAW77784); (f) modified human c-mpl ligand polypeptide (see AAW77785); and (g) a factor selected from the group consisting of a CSF, a cytokine, a lymphokine, an interleukin and a haematopoietic growth factor, provided that at least R1 or R2 is selected from (a), (b) or (c) as above. The multi-functional chimeric haematopoietic receptor agonist can be used to stimulate the production of haematopoietic cells in a patient, for the ex
                                                                                                                                                           A human erythropoietin (EPO) receptor agonist polypeptide comprises a modified EPO amino acid sequence of the formula provided in AAW77780, which the N-terminus is joined to the C-terminus directly or via a linker, the polypeptide having new C- and N-termini at one of the positions indicated. Novel claimed multi-functional chimeric
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                            Human; erythropoietin; EPO; antianaemic; nephrotrophic; anti-HIV; vaccine; haemostatic; immunoglobulin; Ig; EPO deficient disease; anaemia; renal failure; Human Immunodeficiency Virus; HIV; haematopoietic growth factor.
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                                                                                                                                                                Human erythropoietin (EPO)
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nes 165; Conserv
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                                                                                                                                                                                                                                                                                                                                       standard;
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99US-0150225P.
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                                                                                                                                                                                                                                                                                                                                    protein;
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                                                                                                                                                                   mature protein.
                                                                                                                                                                                                                                                                                                                                    166
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence is human erythropoietin (EPO) mature protein. EPO has improved biological activity and an extended serum half life greater than 20 hours. The present invention relates to modified EPO forms such as fusion proteins comprising a Fc portion of an immunoglobulin (Ig) molecule and an EPO molecule (Fc-EPO). The Fc portion is fused covalently through its C-terminus directly or indirectly to the EPO molecule, and where the Fc portion as well as EPO portion may be modified or mutated. The invention also relates to non-fused EPO molecules which have a pattern of cysteines or disulphide bonding which is distinct from human or animal EPO. Pharmaceutical compositions containing EPO are useful in the treatment of EPO deficient diseases such as anaemia, renal failure, HIV infection, blood loss and chronic disease that can be treated with haematopoietic growth factor
                WO200102017-A2
                                                                      Erythropoietin; chronic renal fa
                                                                                                                Human erythropoietin protein #2
                                                                                                                                             06-APR-2001
                                                                                                                                                                                                      AAB66698 standard; protein; 166 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 166 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1; Page 22; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fc portion of an immunoglobulin molecule and biological activity of erythropoietin forms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel modified erythropoietin forms such as fusion proteins, comprising Fc portion of an immunoglobulin molecule and a target molecule having the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-367563/38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hartmann A,
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                                           Homo sapiens
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                                                                                                                                                                                                                                                                                                     PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                     VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                           (first entry)
                                                                      failure;
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                                                                      EPO; reticulocytes; red blood cell; ethylene glycol; ailure; AIDS; cancer.
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Pred. No. 1.9e-86;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lo K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 166;
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RESULT 23
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05-AUG-1999;
30-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to a conjugate comprising, human erythropoietin glycoprotein (EPO) having at least one free amino group and having in vivo biological activity of causing an increase the production of reticulocytes and red blood cells, covalently linked to 1-3 lower-alkoxy poly(ethylene glycol) groups through a linker. The invention is useful for preparation of medicaments for the treatment of prophylaxis of disease correlated with anemia in chronic renal failure patients (CRF), AIDS and for the treatment of cancer patients undergoing
                                                                                                                                                           Human; erythropoietin; EPO; immur major histocompatibility complex.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel erythropoietin-glycoprotein conjugate useful for treating diseasucorrelated with anemia in chronic renal failure patients, AIDS and for treating cancer, is linked to polyethylene glycol through linker.
            06-FEB-2001;
19-FEB-2001;
                                                 05-FEB-2002; 2002WO-EP001174
                                                                                                       WO200262843-A2
                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                    Human erythropoietin (EPO).
                                                                                                                                                                                                                              29-NOV-2002 (first entry)
                                                                                                                                                                                                                                                                                    ABG92101 standard; protein; 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 166 AA;
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                                                                                                                                                                                                                                                                                                                                                                                  PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                                                                                                        VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                                                                                                                                                                                                                       PPDAASAAPLRTTTADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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ilarity 100.0%;
Conservative (
            2001EP-00102615
2001EP-00103954
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99US-0147452P.
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                                                                                                                                                                         EPO; immunogenic; MHC class I; T-cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 846; DB 4;
Pred. No. 1.9e-86;
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RESULT 24
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; erythropoietin; EPO; hEPO; haemostatic; red blood cell; blood disorder; anaemia; chronic renal failure; CRF; AIDS; acquired immunodeficiency syndrome; cancer chemotherapy; haemostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New modified molecule that is non-immunogenic and which has the biological activity of human erythropoietin, useful for reducing propensity of the polypeptide to ellcit an immune response upon administration to human subject.
                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAM53062 standard; protein; 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   activity when used in vivo. ABG92101-ABG92172 represent human erythropoietin and erythropoietin T-cell group peptides of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         activity of
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                                                                                        Modified-site
                                                                                                                                                                         Disulfide-bond
                                                                                                                                                                                                                             Modified-site
                                                                                                                                                                                                                                                                 Disulfide-bond
                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                anti-HIV; antianaemic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human erythropoietin (hEPO), 166 residue form.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 166 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to a modified
                                                                                                                                              Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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Pred. No. 1.9e-86;
Mismatches 0;
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                                                                                                      undergoing chemotherapy. Unlike prior art erythropoietin compositions, the compositions of the invention do not contain human serum albumin (thereby avoiding the possibility of viral infections and allergic reactions associated with this component), are liquid rather than lyophilisates (and therefore do not need to be reconstituted before administration), and are stable at elevated temperatures such as 25 degrees Celsius and even 40 degrees Celsius, and therefore can be storwithout refrigeration for prolonged periods without degradation and los of activity. The present sequence represents the 166 residue form of human erythropoietin which is specifically claimed for use in a composition of the invention
                                                                                                                                                                                                                                                                                                                    The invention relates to liquid pharmaceutical compositions comprising an erythropoietin (EPO) protein, a multiple negatively charged inorganic anion in a buffer which maintains the pH of the solution from 5.5-7.0, and optionally at least one excipient. The erythropoietin used in the composition is preferably human (AAM53061 or AAM53062) a human erythropoietin variant containing additional glycosylation sites (AAM53064-AAM53107), or an erythropoietin with the C-terminal addition of a C-terminal fragment of human chorionic gonadotropin (AAM53063). Erythropoietin is a glycoprotein essential for the formation of red blood cells and is therefore useful in the treatment of blood disorders characterised by low or defective red blood cell production. The compositions of the invention can be used in the treatment and prevention of anaemia in chronic renal failure patients (CRF), AIDS (acquired immunodeficiency syndrome), and/or for the treatment of cancer patients
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim
                                                                         Sequence 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Composition useful in the treatment of erythropoietin protein, and a multiple
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Pred. No. 1.9e-86;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CC The present sequence represents a human erythropoietin (EPO) protein. It CC was used to produce conjugates of the invention. The specification CC describes a conjugate comprising an EPO glycoprotein having an N-terminal CC alpha-amino group, chosen from human EPO (hEPO) or its analogues (where CC hePO is modified by addition of 1-6 glycosylation sites or a CC rearrangement of a glycosylation site). The glycoprotein has in vivo CC linked to a poly(ethylene glycol) group. The EPO glycoprotein has in vivo CC biological activity of causing bone marrow cells to increase production CC confugital activity in vivo, improved potency and stability, when compared CC clinical activity in vivo, improved potency and stability, when compared CC clinical activity in vivo, improved potency and stability, when compared to unmodified EPO. The EPO conjugate is useful for preparing medicaments CC for the treatment and prophylaxis of diseases correlated with anaemia in CC chronic renal failure patients (CRF), acquired immunodeficiency syndrome CC (AIDS) and for treating cancer patients undergoing chemotherapy. It is also useful for treating patients by stimulating the division and committed erythroid progenitors in the bone marrow with the committed erythroid progenitors in the bone marrow with the committed erythroid progenitors in the bone marrow with the committed erythroid progenitors in the bone marrow with the committed erythroid progenitors in the bone marrow with the committed erythroid progenitors in the bone marrow with the committed erythroid progenitors in the bone marrow with the committed erythroid progenitors in the bone marrow with the committed erythroid progenitors in the bone marrow with the committed erythroid progenitors in the committed erythroid erythroid erythroid erythroid er
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                                   ADG65661 standard; protein; 166 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel conjugate of erythropoietin glycoprotein with polyethylene glycol, useful for treating diseases correlated with anemia in chronic renal
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Pred. No. 1.9e-86;
; Mismatches 0;
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08-MAR-2001;
15-MAR-2001;
15-MAR-2001;
20-MAR-2001;
20-MAR-2001;
                                                                                                                                                                                                                                                 peptide within the amino acid sequence of a parent immunogenically non-modified biological molecule identified is useful for preparing a biological molecule with reduced immunogenicity and having a retained desired biological activity, where the T-cell epitope is a l3mer peptide. The present sequence is used in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                    The invention relates to a novel method for identifying one or more potential T-cell epitope peptides within the amino acid sequence of a biological molecule by determining the binding of the peptides to major histocompatibility complex (MHC) molecules using in vitro or in silico techniques or biological assays. The method of the invention is useful for preparing a polypeptide, a protein, a fusion protein, an antibody or their fragments with reduced immunogenicity. The potential T-cell epitope
                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 7; Page 36; 85pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Identifying potential T-cell epitope peptides within the amino acid sequence of a biological molecule, useful for preparing a biological molecule with reduced immunogenicity, comprises determining peptide
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19-OCT-2001;
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25-APR-2001;
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              PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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                                                                                                                            APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                       VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                            APPRLICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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2001EP-00110220.
2001EP-00113228.
2001EP-00124965.
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2001EP-00106536.
2001EP-00106538.
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2001EP-00107012.
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                                                                                                                                                                                                                                                                                                                                                                                                                                      English
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Pred.
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                                                                                                                                                                   Mismatches
                                                                                                                                                                                846; DB 5;
No. 1.9e-86;
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                                                                                                                                                                                            Length
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165

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RESULT 27
ABR39996
AD ABR39
XX ABR39
XX ABR39
XX EPO;
XX EPO;
XX EPO;
XX Humar
XX EPO;
XX Homo
XX FT Disul
FT Disul
FT Modi!
FT Modi!
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                                                                                                                                                                                  Query Match
Best Local S
Matches 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to an exythropoietin mutein (I) having the in vivo biological activity of causing bone cells to increase production of reticulocytes and red blood cells, characterized by being N-glycosylated at Asn38 and Asn83 but not N-glycosylated at Asn24. (I) or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel erythropoietin mutein having in vivo biological activity of causing bone marrow cells to increase production of reticulocytes/red blood cells, is N-glycosylated at Asn38 and Asn83 but not N-glycosylated at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          an aqueous composition comprising an erythropoietin mutein is useful for the preparation of a medicament for the treatment or prophylaxis of diseases correlated with anemia in chronic renal failure patients (CRF),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim
                                                                                                                                                                                                                                                                                        Sequence 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-457226/43
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disulfide-bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disulfide-bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EPO; erythropoietin; mutein; reticulocyte; red blood cell; antianemic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human erythropoietin
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                                                                                                                                                                                                                                                                                                                                                                          cell production.
                                                                                                                                                                                                                                                                                                                                                                                                experiencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-SEP-2001; 2001EP-00122555
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                                                                                                                                                                                                                                                                                                                                                                  S and for the treatment of cancer patients undergoing chemotherapy. or the composition is useful for treating a human patient eriencing blood disorders characterized by low or defective red blood l production. (I) is useful for enhancing red blood cell formation.
                                                                                                                                                                                                                                                                                                                                            present sequence represents a human erythropoietin
                                                                                                                                                                                     165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6; Page 22; 22pp; English.
                           61
                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HOFFMANN
VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                           APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                               APPRLI CDSRVLERYLLEAKEAENI TTGCAEHCSLNENI TVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                             AA;
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126
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Asn
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "disulphide bridge"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "disulphide bridge"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             is O-glycosylated"
                                                                                                                                                                               Score 846; DB 6;
Pred. No. 1.9e-86;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-glycosylated"
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                                                                                                                                                                                                                                      Length 166;
                                                                                                                                                                                     Indels
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RESULT 28
ABRE 77500
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XX ABRE XX
AC ABRE CCC ABBE 
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                                                                            antianaemic, antirheumatic, antiarthritic, anti-HIV and rephrotropic activities, and can be used as a red blood cell production stimulator.

(I) can be used as a pharmaceutical; in the manufacture of a medicament for prevention or treatment of disorders involving low or defective red blood cell production; and in the treatment of head trauma, stroke, epilepsy, ischaemia, hypoxia, immune-mediated inflammation, excessive neuronal excitation and other central nervous system (CNS) related conditions. Also useful for the treatment of HIV, chronic renal failure, anaemia in patients with non-myeloid malignancies, chronic inflammatory
                                                                                                                                                                                                                                                                                                                                                                        polypeptide comprising the amino acid sequence of (b); and (2) use of as a pharmaceutical and in the preparation of a medicament for the prevention or treatment of disorders involving low or defective red bl cell production. (I) has tranquilliser, cerebroprotective, antioponulaant, vasotropic, antioptimanatory, immunosuppressive, antiopenulaant, vasotropic, antioptimanatory, immunosuppressive,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               comprises at least one polymer molecule (a), covalently attached to ar attachment site of a human erythropoietin-like polypeptide (b), where comprises at least one removed and/or introduced lysine, cysteine,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Polypeptide conjugate useful in the treatment of e.g. stroke, and hypoxia comprises polymer molecule covalently attached to site of human erythropoietin-like polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             antianaemic; antirheumatic; antiarthritic; anti-HIV; nephrotrop; red blood cell production stimulator; head trauma; stroke; epile ischaemia; hypoxia; immune-mediatted inflammation; CNS disorder; excessive neuronal excitation; central nervous system disorder; chronic renal failure; anaemia; chronic inflammatory disease;
                              disease e.g. rheumatoid arthritis, anaemia associated with chronic disease, senile anaemia and anaemia in patients undergoing blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aspartic acid or glutamic acid residue compared to the amino acid sequence of human erythropoietin (hEPO). Also described: (1) a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-DEC-2001; 2001DK-00001953.
21-DEC-2001; 2001US-0343501P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 61-62; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18-DEC-2002; 2002WO-DK000871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-JUL-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABR57500
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (MAXY-) MAXYGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             invention describes a polypeptide conjugate (I), which
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anti-HIV; nephrotropic;
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Best Local
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15-NOV-2001;
11-OCT-2002;
                       The invention describes protecting an animal from a disease or condition that can be treated by wild-type granulocyte macrophage colony that can be treated by wild-type granulocyte macrophage colony stimulating factor (GM-CSF) comprising administering to an animal having the disease or condition a composition comprising GM-CSF cysteine muteing the methods are useful for preventing or treating the occurrence of neutropenia in an animal, the neutropenia is selected from neutropenia resulting from myelosuppressive chemotherapy, neutropenia associated with the compressive chemotherapy is neutropenia associated with the compressive chemotherapy.
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13-JUL-1998;
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GM-CSF; neutropenia; myelosuppressive chemotherapy;
bone marrow transplantation; HIV infection; burn; surgery;
anaemia; neonatal septicaemia; severe chronic neutropenia;
anlastic anaemia; acute leukaemia; human; growth hormone s
                                                                                                                                                                                                                                                                     Protecting an animal from a disease or condition, useful f neutropenia, comprises administering to an animal having t condition a composition comprising GM-CSF cysteine mutein.
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; 98WO-US014497.
; 2000US-00462941.
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Pred. No. 1.9e-86;
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Best Local :
                                                                                                                                                                                                                                                                                                                                           Harvesting a desired polypeptide produced by a recombinant host cell, producing pharmaceuticals, comprises selecting a recombinant nucleic a comprising nucleic acid fragments encoding a leader peptide and the
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                                                                                                                                                                                                                                                                                                                     comprising nucleic polypeptide.
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07-FEB-2003; 2003US-00360101.
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                                                                                                                                                                                                                                                                 Claim 4; Page
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No. 1.9e-86;
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The invention relates to a novel method for harvesting a (poly) peptide produced by a recombinant host cell. The novel method involves selecting a cell comprising a first nucleic acid encoding a leader peptide and a second nucleic acid fragment encoding the desired (poly) peptide. The first and second fragments are within the same open reading frame of the first nucleic acid and the leader peptide is functionally equivalent to an N-terminal leader peptide found with the pre-peptide of a lantibiotic. The host cells and nucleic acids are useful for producing, harvesting and post-translational modification of polypeptides. The polypeptides may be

lantibiotic. harvesting and btides may be

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                                                                            This invention relates to a novel modified molecule comprising the biological activity of human erythropoietin (EPO) and being substantially non-immunogenic or less immunogenic than any non-modified molecule having the same biological activity in an individual when used in vivo. The invention is useful for manufacturing a modified human erythropoietin molecule. The modified EPO may be used in various therapeutic applications, such as in the treatment of anaemia. The present sequence is that of the mature human erythropoietin protein which was used to derive the modified EPO molecules of the invention.
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                                                    Sequence 166
                                                                                                                                                                                                                                                     New modified human erythropoietin molecules with reduced immunogenicity, useful in various therapeutic applications such as in the treatment of
                                                                                                                                                                                                                                                                                                                         Baker M,
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  Conservative
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Pred. No. 1.9e-86;
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                                                                                            The invention relates to modified cytokines that exhibit increased resistance to proteolysis compared to unmodified cytokines. The invention also relates to nucleic acid molecules encoding the cytokines, a pharmaceutical composition comprising a nucleic acid molecule in a pharmaceutical carrier, and a method of generating a protein or peptide molecule having a predetermined property or activity, or a pre-selected altered phenotype. The modified cytokine is selected from a member of the interferons (IFMs)/interleukin (II)-10 protein family, a member of the long-chain cytokine family or a member of the short-chain cytokine family. The composition and method are useful for diagnosing and treatin diseases such as infections, allergies, heart diseases, cancer, liver meurodegenerative diseases. This sequence represents a human cytokine
   Sequence 166 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New modified cytokines with increased resistance to proteolysis, useful for diagnosing and treating diseases such as infections, allergies, hea diseases, cancer, liver disorders, autoimmune diseases or diabetes.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 88; SEQ ID NO 201; 316pp; English.
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Query Match Best Local Similarity

100

Score Pred.

846; No. 1.

DB 8; .9e-86;

Length 166

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RESULT 33
ADLO6781
ID DOCTOR
XX ADLO6
XX ADLO6
XX ADLO6
XX ADLO6
XX Human
XX Human
XX Human
XX Hono
XX WO200
XX WO1
XX WPI
XX Clair
XX WPI
                                             CC erythropoletin protein is preferably a human erythropoletin (e.g., CC epoetin alpha and epoetin beta) which may be expressed by endogenous gene CC erythropietin protein used in the method may also be modified by the CC addition of 1-6 glycosylation sites, or by pegylation. Patients with CC disbetes have been found to have a high probability of be affected by CC disturbances of iron distribution. In such patients, the overall CC concentration of iron in the body is normal (compared with consitions CC such as anaemia), but the individual may suffer the effects of iron accumulation in certain organs, leading to organ damage and destruction, CC and/or experience effects similar to anaemia due to iron usage in blood CC increase production of reticulocytes and red blood cells, and this has CC been found to have a beneficial effect on iron distribution disturbances in diabetes e.g., non-insulin dependent (type 2) diabetes. Erythropietin CC proteins may therefore be used to manufacture a medicament for the CC reatment of disturbances of iron distribution in disbutes. The present CC specifically claimed for use in the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Use of erythropoietin protein in manufacture of medicament for treating disturbances of iron distribution in diabetes.
   Sequence 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 6; SEQ ID NO 2; 31pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2004-282643/26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lehmann
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-AUG-2002; 2002EP-00019100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; erythropoietin; EPO; iron distribution disturbance; diabetes; non-insulin dependent diabetes; type 2 diabetes; reticulocyte production;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 03-JUN-2004 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              plood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           invention relates to the use of an erythropoietin (EPO) protein treatment of disturbances of iron distribution in diabetes. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO: 2.
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RESULT 34
ADO59416
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           The invention relates to the use of an erythropoietin (EPO) protein for CC the treatment of disturbances of iron distribution in heart diseases. The erythropoietin protein is preferably a human erythropoietin (e.g., CC epoetin alpha and epoetin beta) which may be expressed by endogenous gene activation or an erythropoeitin analogue such as darbepoietin alpha. The CC erythropoietin protein used in the method may also be modified by the addition of 1-6 glycosylation sites, or by pegylation. Patients with CC heart diseases have been found to have a high probability of be affected by disturbances of iron distribution. In such patients, the overall CC by disturbances of iron in the body is normal (compared with conditions such as anaemia), but the individual may suffer the effects of iron CC accumulation in certain organs, leading to organ damage and destruction, and/or experience effects similar to organ damage and destruction cell formation being impaired. Erythropoietin causes bone marrow cells to increase production of reticulocytes and red blood cells, and this has been found to have a beneficial effect on iron distribution disturbances
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 165
                                                                                                                                                                                                                                                                                                                             Claim 6; SEQ ID NO 2;
                                                                                                                                                                                                                                                                                                                                                                                  Use of erythropoietin treating disturbances
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; erythropoietin; EPO; iron distribution disturbance; heart heart insufficiency; coronary heart disease; atherosclerosis; acute coronary syndrome; heart failure; congestive heart failure;
                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-450212/42.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADO59416 standard; protein; 166
                                                                                                                                                                                                                                                                                                                                                                 insufficiency.
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                                                                                                                                                                                                                                                                                                                                                                                 protein in the manufacture of medicament for of iron distribution in heart diseases e.g. heart
                                                                                                                                                                                                                                                                                                                             31pp; English.
heart insufficiency,
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 disturbances disease,
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ARESULT 35
AAP50299
ID AAP50
XX AAP50
XX AAP50
XX AAP50
XX AAP50
XX DT 25-MA
DT 01-JA
XX Eryth
KW Eryth
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XX Homo
XX L1-DE
PR 21-FE
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28-SEP-1984;
30-NOV-1984;
                                                      Human erythropoietin encoded by this sequence is essential for red blocell formation and is used for the diagnosis and treatment of blood disorders such as anaemia. Large amounts of EPO may be obtained using recombinant DNA techniques in contrast to small amounts obtained from plasma and urine. This sequence is expressed in E coli. See also AAN50345, AAN50347-50 and AAP503298, AAP503301-P50301. (Updated on 25-MP 2003 to correct PA field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atherosclerosis, acute coronary syndrome, heart failure and congestive heart failure. Erythropoietin proteins may therefore be used to manufacture a medicament for the treatment of disturbances of iron distribution in heart diseases. The present sequence represents a 166 amino acid human erythropoietin which is specifically claimed for use in the interest of the sequence.
                                                                                                                                                                                                                                                                               Disclosure;
                                                                                                                                                                                                                                                                                                                                   New polypeptide having properties of erythropoietin - is prepd. cultivation of transformed eucaryotic or procaryotic host.
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01-JAN-1980
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Pred. No. 1.9e-86;
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1. No. 1.9e-86;
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CC protein. The EPO was extended at the N-terminal by a process.

CC site. It was used to produce conjugates of the invention. The CC specification describes a conjugate comprising an EPO glycoprotein having CC an N-terminal alpha-amino group, chosen from human EPO (hEPO) or its CC an N-terminal alpha-amino group, chosen from human EPO (hEPO) or its CC analogues (where hEPO is modified by addition of 1-6 glycosylation sites CC or a rearrangement of a glycosylation site). The gPO glycoprotein is CC covalently linked to a poly(ethylene glycol) group. The EPO glycoprotein CC has in vivo biological activity of causing bone marrow cells to increase CC production of reticulocytes and red blood cells. The conjugate increased circulating half-life and plasma residence time, decreased clearance, increased clinical activity in vivo, improved potency and stability, when compared to unmodified EPO. The EPO conjugate is useful for preparing compared to unmodified EPO. The EPO conjugate is useful for preparing compared to unmodified EPO. The EPO conjugate is chronic renal failure patients of diseases correlated with canaemia in chronic renal failure patients (CFP), acquired condergoing chemotherapy. It is also useful for treating patients by conjugations in the bone marrow
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d cell production; anaemia; chronic renal failure;
immunodeficiency syndrome; AIDS; cancer; bone marrow;
d erythroid progenitor.
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The present sequence represents a modified human erythropoietin (EPO) protein. The EPO was extended at the N-terminal by a proteolytic cleavage site. It was used to produce conjugates of the invention. The specification describes a conjugate comprising an EPO glycoprotein having an N-terminal alpha-amino group, chosen from human EPO (hEPO) or its analogues (where hEPO is modified by addition of 1-6 glycosylation sites or a rearrangement of a glycosylation site). The glycoprotein is covalently linked to a poly(ethylene glycol) group. The EPO glycoprotein has in vivo biological activity of causing bone marrow cells to increase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; erythropolection; anaemia; chronic renar taller, red blood cell production; anaemia; chronic renar taller, acquired immunodeficiency syndrome; AIDS; cancer; bone marrow; committed erythroid progenitor.
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                                                                                                                                                                                             Novel conjugate of erythropoietin glycoprotein with polyethylene glycol, useful for treating diseases correlated with anemia in chronic renal
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  erythropoietin; EPO; glycoprotein; reticulocyte production;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPRLICDSRVLERYLLEAKBAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                                                                                                                                                                    Engel A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     standard; protein; 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
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                                                                                                                                                                               and acquired immunodeficiency syndrome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "BPO protein"
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100.0%; Pred. No. 2e-86;
Live 0; Mismatches
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                                                                                                                                                                                                                                                                                    Schurig
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Disclosure; Page 39-40; 40pp; English

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Wozny M;
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                          Novel conjugate of erythropoietin glycoprotein with polyethylene glycol, useful for treating diseases correlated with anemia in chronic renal failure patients and acquired immunodeficiency syndrome.
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1. .8
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9. .174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "EPO protein"
                                                                                                                                                                                                                                                   Franze R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 846; DB 5;
Pred. No. 2.1e-86;
                                                                                                                                                                                                                                                   Hilger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                     7
                                                                                                                                                                                                                                                      œ
                                                                                                                                                                                                                                                   Schurig HE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                          Tischer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
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밁 Ś В Ś ₽ S

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ARBSULT 40
AAA60599
ID AAA60
XX AAA60
XX Z5-MA
DT 25-MA
DT 01-JP
XX Clone
XX Eryth
KW Eryth
KW mamma
OS Homo
XX W0860
XX W0860
XX J9-JU
PR 03-DE
PR 03-JP
PR 03-JP
PR 22-JP
XX (GEMY)
PA (FRIT
XX WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CC site. It was used to produce conjugates of the invention. The CC specification describes a conjugate comprising an EPO glycoprotein having CC an N-terminal alpha-amino group, chosen from human EPO (hEPO) or its CC analogues (where hEPO is modified by addition of 1-6 glycosylation sites CC or a rearrangement of a glycosylation site). The glycoprotein is CC covalently linked to a poly(ethylene glycol) group. The EPO glycoprotein is CC production of reticulocytes and red blood cells. The conjugate increased CC circulating half-life and plasma residence time, decreased clearance, CC compared to unmodified EPO. The EPO conjugate increased CC compared to unmodified EPO. The EPO conjugate increased clearance, CC compared to unmodified EPO. The EPO conjugate is useful for preparing CC medicaments for the treatment and prophylaxis of diseases correlated with anaemia in chronic renal failure patients (CRF), acquired coundergoing chemotherapy. It is also useful for treating patients by stimulating the division and differentiation of committed erythroid CC progenitors in the bone marrow
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                04-DEC-1984;
03-JAN-1985;
22-JAN-1985;
 WPI; 1986-169459/26
                                Fritsch
                                                               (GEMY )
(FRIT/)
                                                                                                                                                                                 03-DEC-1985;
                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                 Erythropoietin; lamba HEPOFL16; recombinant plasmid vector; mammal cell culture; 3T3; CHO; Chinese hamster ovary; ss.
                                                                                                                                                                                                                                                                                                                                                                     Clone lambda
                                                                                                                                                                                                                                                                                                                                                                                                    25-MAR-2003
01-JAN-1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAP60599;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAP60599 standard; protein; 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence represents a modified human erythropoietin (EPO) protein. The EPO was extended at the N-terminal by a proteolytic cleavage
                                                                                                                                                                                                                  19-JUN-1986.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                               GENETICS
FRITSCHE
                               'n
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      174 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPRITCDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
ilarity 100.0%;
Conservative 0
                                Hewick RM,
                                                                                                                                                                                                                                                                                                                                                                   HEPOFL16 encoding human erthropoietin
                                                                                                                                                                                                                                                                                                                                                                                                  (revised)
(first entry)
                                                                                                              84US-00677813.
85US-00688622.
85US-00693258.
                                                                                                                                                                                 85WO-US002405
                                                               INST
                                Jacobs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 846; DB 5;
Pred. No. 2.1e-86;
; Mismatches 0;
                                <u>.</u>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165
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RESULT 41
AAP81195
ID AAP81
XX AAP81
AC AAP81
AC AAP81
XX 25-MA
DT 25-MA
DT 20-NO
XX EPO;
XX EPO;
XX EPO;
XX PT Pepti
FT Prote
FT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A recombinant plasmid vector expressing this clone is expressed in e. g 3T3 or CHO cell cultures. The produced erythropoietin is useful for treatment of anaemia, especially renal anaemia. The cloned gene expresses high levels of the protein and thus provides a means of mass production. See also AAN60513-18, AAN60520-21 and AAP60598. (Updated on 25-MAR-2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-MAR-2003
20-NOV-1990
                         Recombinant human erythropoietin - epitheloid cell capable of producir human erythropoietin.
                                                                                                                                                                                                               Beck AK,
                                                                                                                                                                                                                                                                                                                          15-SEP-1986;
                                                                                                                                                                                                                                                                                                                                                                                15-SEP-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                     18-MAY-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EP267678-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EPO; erythropoietin; anaemia; renal failure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Erythropoietin encoded by EPO 140B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAP81195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAP81195 standard; protein; 188 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 20; 61pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Prodn. of human cDNA clone expressing erythropoietin - erythropoietin, useful for treating anaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; AAN60519
                                                                                                                                                                                                                                                                     (INUA ) INTEGRATED GENETICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        correct PA field.)
                                                                                                                                 1988-134531/20
DB; AAN81554.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             143
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                             Withy RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 846; DB 1; llarity 100.0%; Pred. No. 2.3e-86; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                          86US-00907369.
                                                                                                                                                                                                                                                                                                                                                                                87EP-00308130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label= EPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= leader sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .188
                                                                                                                                                                                                               Zabrecky JR,
                                            oietin - produced by a transformed rodent producing N-linked and O-linked glycosylated
                                                                                                                                                                                                                  Masiello NC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 188;
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RESULT 42
ADF16588
ID ADF166
XX ADF1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                    28-JAN-2002
26-FEB-2002
28-FEB-2002
27-MAR-2002
08-ARR-2002
10-MAY-2002
24-MAY-2002
24-MAY-2002
10-JUL-2002
10-JUL-2002
24-JUL-2002
10-JUL-2002
10-JUL-2002
11-AUG-2002
11-AUG-2002
18-SEP-2002;
02-OCT-2002;
11-OCT-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EPO 104B was one of four positive clones isolated from a cDNA library prepd. from mRNA extracted from a human foetus of about 20 wk. gestation. The clone was identified using two humans from the published sequence of EPO (Nature (1985) Vol.313, p.806). The sequence between nucleotides 63 and 724 has 100% homo- logy with the published sequence. It encodes the 166 AAs of the mature EPO protein and 22 AAs of the leader sequence. This clone which was expressed in rodent epithelial cols. See also AAP81196. (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to correct PI field.)
                                                                                                                                                                                                                                                                                                                                                                                                                              21-DEC-2001;
24-JAN-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          albumin fusion protein; albumin activity; human serum albumin; serum osmotic pressure; shelf-life; stability; antidiabetic; gene therapy; diabetes mellitus; human; gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human albumin fusion
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Pred. No. 2.3e-86;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This invention relates to a novel albumin fusion protein having albumin or biological activity. Human serum albumin is responsible for a cor biological activity. Human serum albumin is responsible for a cor significant proportion of the osmotic pressure of serum and also compositions as a carrier of endogenous and exogenous ligands. The fusion of compositions are protein of the invention may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may callow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating calbumin fusion protein is useful for preparing a composition for treating composition protein sequence is that of a therapeutic protein composition of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
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                             23-DEC-2002; 2002WO-US040891
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05-NOV-2002;
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DELTA BIOTECHNOLOGY L
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diabetes mellitus; human;
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                                                                                                                                                                                                                                                                                     shelf-life; stability;
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Pred. No. 2.4e-86;
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10-MAY-2002;
24-MAY-2002;
28-MAY-2002;
05-JUN-2002;
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24-JUL-2002;
09-AUG-2002;
                                                                                                                                                                                                                                                                 or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is that of a therapeutic protein which was fused with human albumin to create a novel albumin fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
                                                                                                                                                                                                                                         Sequence 192 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This invention relates to a novel albumin fusion protein having
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 4; SEQ ID NO 1691; 24pp; English
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02-OCT-2002;
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DELTA BIOTECHNOLOGY I
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                    PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                        APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                     APPRILICOSRVILERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                          VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                                                                             100.0%; Score 846; DB 7; 100.0%; Pred. No. 2.4e-86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rosen CA,
                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q.L.T
                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                                           Length 192;
                                                                                                                                                                               Indels
                                                                                                                                                                               0
                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      albumin
                                                                                         120
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ADF15305 standard;

protein; 192

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21-DEC-2001;
24-JAN-2002;
28-JAN-2002;
26-FEB-2002;
26-FEB-2002;
28-FEB-2002;
27-WAR-2002;
10-MAY-2002;
24-MAY-2002;
26-MAY-2002;
10-JUL-2002;
10-JUL-2002;
                    This invention relates to a novel albumin fusion protein having albumin or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is that of a therapeutic protein which was fused with human albumin to create a novel albumin fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                albumin fusion protein; albumin activity; human serum albumin; serum osmotic pressure; shelf-life; stability; antidiabetic; gene therapy; diabetes mellitus; human; gene; ds.
Sequence 192
                                                                                                                                                                                                                                         Example
                                                                                                                                                                                                                                                                  New albumin fusion protein, useful for preparing treating diabetes mellitus.
                                                                                                                                                                                                                                                                                                                          WPI; 2003-598517/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      11-OCT-2002;
23-OCT-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-SEP-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09-AUG-2002;
13-AUG-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-JUL-2003
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                                                                                                                                                                                                                                                                                                                                                                                               HUMAN
DELTA
                                                                                                                                                                                                                                       4; SEQ ID NO 603; 24pp; English
                                                                                                                                                                                                                                                                                                              ADF15870
                                                                                                                                                                                                                                                                                                                                                                                 PRINCIPIA PHARM CORP
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2002US-0394625P.
2002US-0398008P.
2002US-0402131P.
2002US-0402708P.
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2002US-0359370P.
2002US-036000P.
2002US-0367500P.
2002US-0370227P.
2002US-0378950P.
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2002US-0420246P.
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2002US-0411426P.
2002US-0414984P.
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2002US-0383123P.
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BIOTECHNOLOGY LTD.
                                                                                                                                                                                                                                                                                                                                                    Rosen CA,
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                                                                                                                                                                                                                                                                                a composition
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Query Match

100.0%;

Score 846;

DB 7;

Length 192

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RESULT 45
ADF16727
ID ADF16
XX
ADF16727
ADF166
XX
ADF16
ADF1
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                                                                                                                                                                                                                                                                                                                                                                                                                                  28-MAY-2002;
05-JUN-2002;
10-JUL-2002;
10-JUL-2002;
24-JUL-2002;
09-AUG-2002;
13-AUG-2002;
18-SEP-2002;
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10-MAY-2002;
24-MAY-2002;
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28-JAN-2002;
26-FEB-2002;
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  Example 4; SEQ ID NO 1829; 24pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-FEB-2002;
27-MAR-2002;
                                             New albumin fusion protein, useful for preparing a composition treating diabetes mellitus.
                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                         18-SEP-2002;
02-OCT-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-FEB-2004 (first entry)
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                                                                                                               2003-598517/56.
DB; ADF16401.
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DELTA BIOTECHNOLOGY I
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                                                                                                                                                                                                                             PRINCIPIA PHARM
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2002US-0417611P.
2002US-0420246P.
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2002US-0385708P.
2002US-03985708P.
2002US-0394625P.
2002US-0398008P.
2002US-0402131P.
2002US-0402131P.
2002US-0402131P.
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2002US-0378950P.
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                                                                    for
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Best Local Similarity
 24-JAN-2002

28-JAN-2002

26-FEB-2002

28-FEB-2002

28-FEB-2002

28-FEB-2002

10-MAY-2002

10-MAY-2002

24-MAY-2002

24-MAY-2002

10-JUL-2002

05-JUL-2002

24-JUL-2002

10-JUL-2002

10-JUL-2002

11-JUL-2002

11-JUL-2002

11-JUL-2002
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16726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This invention relates to a novel albumin fusion protein having albumin or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is that of a therapeutic protein which was fused with human albumin to create a novel albumin fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
                                                                                                                                                                                                                                                                                                                                                                                   albumin fusion protein; albumin activity; human serum albumin; serum osmotic pressure; shelf-life; stability; antidiabetic; gene therapy; diabetes mellitus; human; gene; ds.
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2002US-0359370P.
2002US-0360000P.
2002US-0367500P.
2002US-0379027P.
2002US-03782617P.
2002US-0382617P.
2002US-0382617P.
2002US-0382617P.
2002US-0382617P.
2002US-0382617P.
2002US-0382617P.
2002US-0382617P.
2002US-0398008P.
2002US-0402131P.
2002US-0402131P.
2002US-0402131P.
2002US-0402131P.
2002US-0402131P.
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2002US-0351360P.
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Pred. No. 2.4e-86;
); Mismatches 0;
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KW serum
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02-OCT-2002; 2002US-0414984P.
11-OCT-2002; 2002US-0417611P.
23-OCT-2002; 2002US-0420246P.
05-NOV-2002; 2002US-0423623P.
                                WO2003060071-A2
                                                                                                                 serum
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                                                                                                                                                               Human albumin fusion protein-related
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(PRIN-)
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                                                                                            min fusion protein; albumin activity; human serum albumi m osmotic pressure; shelf-life; stability; antidiabetic; therapy; diabetes mellitus; human; gene; ds.
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DELTA BIOTECHNOLOGY I
PRINCIPIA PHARM CORP.
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Best Local
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24-JAN-2002
28-JAN-2002
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21-MAY-2002
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24-MAY-2002
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                                                                                                                                                                                                                                         runctions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is that of a therapeutic protein which was fused with human albumin to create a novel albumin fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at fre wince intimated.
                                                                                                                                                                                                          Sequence 192
                                                                                                                                                                                                                                                                                                                                                                           or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion
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DELTA BIOTECHNOLOGY LTD.
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                                       VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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2002US-0394625P
2002US-0398008P
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2002US-0367500P.
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Pred. No. 2.4e-86;
; Mismatches 0;
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RESULT 48
ADF16728
ID ADF16
This invention relates to a novel albumin fusion protein having albumin correction of control of the osmotic pressure of serum and also continuous as a carrier of endogenous and exogenous ligands. The fusion of the chaptering protein may increase shelf-life and stability of the therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may control protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is that of a therapeutic protein control was fused with human albumin to create a novel albumin fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic forms at directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
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24-JAN-2002
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10-MAY-2002
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09-AUG-2002;
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23-OCT-2002;
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DELTA BIOTECHNOLOGY L
PRINCIPIA PHARM CORP.
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DB; ADF15860.
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m osmotic pressure; shelf-life; stability; antidiabetic;
therapy; diabetes mellitus; human; gene; ds.
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PRINCIPIA PHARM CORP.
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2002US-0402131P.
2002US-0402708P.
2002US-0411355P.
2002US-0411426P.
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2002US-0360000P.

2002US-0370227P.

2002US-0370950P.

2002US-0383123P.

2002US-0383123P.
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2002US-0423623P
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2002US-0417611P
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2002US-0351360P.
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Pred. No. 2.4e-86;
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  preparing
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  for
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xx Example 4; SEQ ID NO 593; 24pp; English.

XX PS Example 4; SEQ ID NO 593; 24pp; English.

XX This invention relates to a novel albumin fusion protein having albumin CC or biological activity. Human serum albumin is responsible for a CC significant proportion of the osmotic pressure of serum and also CC functions as a carrier of endogenous and exogenous ligands. The fusion of CC albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may CC albumin fusion protein is useful for preparing a composition for treating CC diabetes mellitus. The present sequence is that of a therapeutic protein of the invention. Note: The sequence alabumin fusion CC protein of the invention. Note: The sequence data for this patent did not CC form part of the printed specification, but was obtained in electronic CC format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences XX Sequence 192 AA;

Query Match 100.0%; Score 846; DB 7; Length 192;
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Best Loc
Matches
                                                                                                                                                                               Local
                             121
 148
                                                                                                                                                                      165;
                                                        88
                                                                                  61
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                                                                                                                                                                                    Similarity
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                           VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                              APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                              APPRII CDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                        VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                     Conservative
                                                                                                                                                                     100.0%; Score 846; DB 7;
100.0%; Pred. No. 2.4e-86;
tive 0; Mismatches 0;
                                                                                                                                                                      Indels
    192
                             165
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                                                                                                                                                                      Gaps
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RESULT 50
ADF16587
ID ADF16587 standard; protein; 192 AA.

XX
AC ADF16587;
XX
C ADF16587;
XX
AC ADF1689.

AC ADF16587;
AC ADF16587;
AC ADF16891.

AC ADF16587;
AC ADF16897;
AC
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RESULT 51
AAP503000
ID AAP50
XX AAP50
AC AAP50
XX 25-MA
DT 01-JA
DT 01-JA
DT 01-JA
KW Eryth
KW BS; F
XX
XX Homo
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This invention relates to a novel albumin fusion protein having albumin or biological activity. Human serum albumin is responsible for a corbiological activity. Human serum albumin is responsible for a corbical activity. Human serum albumin is responsible for a corbical serum and also for the composition of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of the therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may callow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is that of a therapeutic protein which was fused with human albumin to create a novel albumin fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
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13-AUG-2002;
18-SEP-2002;
18-SEP-2002;
02-OCT-2002;
                                                                                                                                                                           AAP50300;
                                                                                                                                                                                                       AAP50300 standard; protein; 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 192
   Homo sapiens
                               Erythropoietin; red blood cell; erythrocyte; anaemia; blood; disorder; ss; phage lambda-hEl; gene bank.
                                                                            Human erythropoietin encoded by positve from human fetal liver gene bank.
                                                                                                                               01-JAN-1980
                                                                                                                                            25-MAR-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New albumin fusion protein,
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23-OCT-2002;
                                                                                                                                                                                                                                                                                        148
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DB; ADF16261.
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DELTA BIOTECHNOLOGY LTD.
PRINCIPIA PHARM CORP.
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                                                                                                                                                                                                                                                                                                         PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                                        VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                               APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
                                                                                                                                                                                                                                                                                       PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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ilarity 100.0%;
Conservative 0
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2002US-040270BP.
2002US-041135SP.
2002US-0411426P.
2002US-0417611P.
2002US-0417611P.
2002US-0420246P.
2002US-0423623P.
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                                                                                                                           (first entry)
                                                                                                                                            (revised)
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Pred. No. 2.4e-86;
; Mismatches 0;
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                                                                                              clone
                                                                                            (phage lambda-hE1) isolated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 192;
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RESULT 52
AAP60597
ID AAP60
XX AAP60
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28-SEP-1984;
30-NOV-1984;
04-DEC-1984;
03-JAN-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human erythropoietin encoded by a sequence encoded by this phage lambdahE1 is essential for red blood cell formation and is used for the diagnosis and treatment of blood disorders such as anaemia. Large amounts of EPO may be obtained using recombinant DNA techniques in contrast to small amounts obtained from plasma and urine. This sequence is expressed in E. coli. See also AAN50345-5, AAN50348-50 and AAP50398-99, AAP50301. (Updated on 25-MAR-2003 to correct PA field.)
                                                                                                                                                                                                                                                                                                      Erythropoietin; lamba HEPOFL13; recombinant plasmid vector; mammal cell culture; 3T3; CHO; Chinese hamster ovary; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                             25-MAR-2003
01-JAN-1980
                                                                                03-DEC-1985;
                                                                                                                                                                                                                                                                                                                                                                                   Clone lambda HEPOFL13 encoding human erthropoietin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAP60597 standard; protein; 193
                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 193 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 43; 113pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New polypeptide having properties of erythropoietin cultivation of transformed eucaryotic or procaryotic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                          (revised)
(first entry)
84US-00677813
85US-00688622
                                                                                   85WO-US002405
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Pred. No. 2.4e-86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      193;
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RESULT 53
AAP70256
ID AAP70
XX AAP70
XX 19-FE
XX Renal
XX Renal
XX Repti
FT Prote
FT Prote
FT Prote
FT Regic
XX XX
PN EP232
XX 19-J1
XX (SUM)
PA (SUM)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A recombinant plasmid vector expressing this clone is expressed in e. g 3T3 or CHO cell cultures. The produced erythropoietin is useful for treatment of anaemia, especially renal anaemia. The cloned gene expresses high levels of the protein and thus provides a means of mass production. See also AAN60514-21 and AAP60598-99. (Updated on 25-MAR-2003 to correct by field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 7; 61pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Prodn. of human cDNA clone expressing erythropoietin - for mass prodn. erythropoietin, useful for treating anaemia.
          (SUMO)
                                       23-JAN-1986;
                                                          19-JAN-1987;
                                                                                                  EP232034-A.
                                                                                                                               Region
                                                                                                                                         Protein
                                                                                                                                                                                                             Renal
                                                                                                                                                                                                                                 Sequence of human erythropoietin
                                                                                                                                                                                                                                                    19-FEB-1991
                                                                                                                                                                                                                                                                        AAP70256;
                                                                                                                                                                                                                                                                                          AAP70256 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GEMY )
(FRIT/)
                                                                                                                                                            Peptide
                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-JAN-1985;
                                                                                                                                                                                                                                                                                                                                            148
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                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                al Similarity
165; Conserv
                                                                                                                                                                                                             anaemia
                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                          28
                                                                                                                                                                                                                                                                                                                                                                                                                         SUMITOMO
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FRITSCHE
                                                                                                                                                                                                                                                                                                                                            PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 192
                                                                                                                                                                                                                                                                                                                                                        PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                                                                                                                                                             VEVWQGLALLSEAVLRGQALLVNSSQFWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                   VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hewick RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA;
                                                                                                                                                                                                                                                    (first
                                                                                                                                                                                                            therapy;
                                                                                                                             Location/Qualifiers
1. 27
/label= SIGNAL
28. 193
81. 97
                                       86JP-00012868
                                                           87EP-00300399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               85US-00693258.
          SEIYAKU KK
                                                                                                                    /note= "Fragment
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М
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                   CHEM IND KK
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                                                                                                                                                                                                                                                    entry)
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                                                                                                                                                                                                                                                                                           193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 846; DB 1;
Pred. No. 2.4e-86;
; Mismatches 0;
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                                                                                                                      that
                                                                                                                                                                                                                                 (EPO).
                                                                                                                     probe AAN70361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 193;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                      18
                                                                                                                                                                                                                                                                                                                                                               165
                                                                                                                     based
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RESULT 54
AAR65499
ID AAR65499
ID AAR655
XX AAR65
XX Z5-MA
DT 25-MA
DT 25-MA
DT 25-MA
CT 25-M
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Best Local S
Matches 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A cDNA library was prepd. from the poly (A) RNA, which was isolated from the erythropoietin-producing human hepatoma cell Hp-1. The cDNA library was screened using the probes given in AAN70361 and AAN70362. A plasmid (named as p58-A20) was isolated. The nucleotide sequence of the cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Yanagi H,
Tsutsumi M;
                   Erythropoietin analogues - useful for treatment enhanced erythropoietic effect.
                                                                                                                                                              Okasinski
                                                                                                                                                                                                                                                          29-APR-1993;
                                                                                                                                                                                                                                                                                                     29-APR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Erythropoietin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human prepro-erythropoietin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-MAR-2003
24-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR65499;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR65499 standard; protein; 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 193 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          obtained from this clone is shown in AAN70360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Fig 1; 22pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human erythropoietin prodn. - by culturing human cells, esp. Namalwa cells, transformed with DNA encoding human erythorpoletin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1987-223006/32.
N-PSDB; AAN70360, AAN70361
                                                                                                                                                                                                                                                                                                                                                                                                WO9425055-A1
                                                                                                                                                                                                            (ABBO ) ABBOTT
                                                                                        1994-357906/44.
DB; AAQ74760.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             148
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPRILICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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(first en
                                                                                                                                                                                                            LAB.
                                                                                                                                                              Devries
                                                                                                                                                                                                                                                                                                     94WO-US004755
                                                                                                                                                                                                                                                          93US-00055076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  therapeutic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
1. .27
                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "leader peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
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                                                                                                                                                              ΡJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   English.
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                                                                                                                                                              Mellovitz
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 846; DB 1;
Pred. No. 2.4e-86;
); Mismatches 0;
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                                                                                                                                                              BS,
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                                                                                                                                                                 Meuth
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                                             anaemia
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                                                                                                                                                                 Schaefer VG
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RESULT 55
AAR71137
ID AAR71
XX AAR71
AC AAR71
XX DT 25-MA
DT 25-MA
DT 17-OC
XX Luman
XX Human
XX Human
XX Human
XX Homo
XX D1-AL
XX Homo
XX Ho
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA encoding human prepro-erythropoietin may be ligated into an expression vector for erythropoietin expression in a CHO cell culture. Site-directed mutagenesis may be used in the construction of EPO analogues with improved activity, which may be used in pharmaceutical compositions for inducing erythropoiesis and treating anaemia. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                      Erythropoietin (EPO) analogues having additional glycosylation site(s) to increase sialic acid content, thereby increasing solubility, serum half-life, biological activity and resistance to proteolysis.
AAR71137 describes the amino acid sequence of human erythropoietin (EPO), from which the inventions novel human EPO analogues were derived. The analogues have at least one additional glycosylation site, this is used to increase the sialic acid content which in turn increases the
                                                                                                                                                                                                                                                                                                        WPI; 1995-098764/13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human erythropoietin; glycosylation; sialic acid; solubility; biological activity; proteolysis resistance; anaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-MAR-2003
17-OCT-1995
                                                                                                                                                                                                                                                                                                                                                                                                                  (AMGE-) AMGEN INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9505465-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR71137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAR71137 standard; protein; 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Page 38-39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        148
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Similarity 100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                      Page 80-81; 108pp;
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(first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
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Pred. No. 2.4e-86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 English.
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RESULT 56
AAR74141
ID AAR74
AC AAR74
AC
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  Query Match
Best Local Similarity
Matches 165; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
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Best Local
                                                                                                                                                        The amino acid sequence encoded by human EPO cDNA is given in AAR74141. Transfection of target cells, e.g. myoblasts, with EPO cDNA and implantation into muscle tissue provides increased RBC prodn. (Updated 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                        Gene therapy for treatment of anaemia - and increasing red blood cell production by transforming red blood cells with the erythropoietin gen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (AMGE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             solubility, half-life, biological activity and proteolysis resistance the protein. The analogues are useful in claimed compsns. for the treatment of Chronic renal failure associated anaemia. (Updated on 25-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                          Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-NOV-1993;
07-OCT-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09-NOV-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR74141 standard; protein; 193
                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; AAQ92296.
                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1995-194095/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Samal BB, Hamamori Y,
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30-OCT-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR74141;
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UNIV SOUTHERN
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                                                                                                         193
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100.0%; Score 846; DB 2; ilarity 100.0%; Pred. No. 2.4e-86; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                       Page 38-40;
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                                                                                                         ΑA;
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(first entry)
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94US-00320480.
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Pred. No. 2.4e-86;
; Mismatches 0;
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                                                   Length 193;
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RESULT 57
AAR81982
ID 81982
XX AAR81
AC E-M2
C AAR81
AC AAR81
AC E-M2
C AAR81
AC AAR
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  Best Local Similarity Matches 165; Conserv
                                                                                                                                                    Human urinary erythropoietin (AAR81982) is a glycoprotein contg. 3 N-linked and 1 O-linked oligosaccharide chain. Erythropoietin analogues (AAR81983-87) have been produced in which the number of glycosylation sites is increased. (Updated on 25-MAR-2003 to correct PF field.)
                                                                                                                                                                                                                                                                                                                                                           New human erythropoietin analogues with increased glycosylation - havincreased activity useful for increasing prodn. of reticulocytes and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13-OCT-1989;
09-OCT-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Erythropoietin; red blood cell;
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27-FEB-1996
                                                                                                       Sequence 193
                                                                                                                                                                                                                                                                                Disclosure; Fig 5; 31pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1995-284791/38
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       Conservative
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(first entry)
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90WO-US005758
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erythrocyte; haematocrit.
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/label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label= N-glycosylation_site
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/label= Sig_peptide
51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
100.0%; Score 846; DB 2;
100.0%; Pred. No. 2.4e-86;
tive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-glycosylation_site
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                                                    Length 193;
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  Gaps
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Conservative

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60

1 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA

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RESULT 58
AAR98397
ID AAR98
XX AAR98
XX AAR98
XX AAR98
XX Eyth
KW Eryth
KW Eryth
KW Scaff
XX Synth
XX Synth
XX Synth
XX FH Key
FH Key
FH Prote
FT Pepti
FT Prote
FT Recon
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  Query Match
Best Local Similarity
Matches 165; Conserv
                                                                                                                                                                Human erythropoietin (EPO) (AAR98397) functions to promote erythroid development, to initiate haemoglobin biosynthesis and to stimulate proliferation of ommature erythroid precursors. It can be obtd. by stable, long-term expression in mammalian cell hosts transfected with a vector carrying EPO cDNA (AAT31529) or genomic DNA (AAT31532) operably linked to an expression control sequence and to 5' and 3' human apolipoprotein scaffold attachment region (SAR) elements (see also AAT31530-31). Transgenic animals can be produced that express the recombinant EPO in their milk
                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 3; Page 58; 84pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           red blood cell disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Recombinant DNA molecule expressing mammalian erythropoietin - transform cell lines, and for gene therapy, e.g. of anaemia's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19-DEC-1994;
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DB; AAT31529, AAT31532.
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                                                                                                              193 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= Sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein;
                             100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   193
Score 846; DB 2;
Pred. No. 2.4e-86;
); Mismatches 0;
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                                                    Length 193;
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RESULT 59
ANY43398
ID ANY43
XX ANY43
XX ANY43
XX ANY43
XX CANY43
XX CANY43
XX CANY43
XX CANY43
XX CANY43
XX CANY43
XX CANY44
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                         The SAR element is used to increase the expression of the coding sequences. The recombinant nucleic acids may be used for the recombinant production of tra both in vitro or in vivo (e.g. as part of a gene therapy procedure). TPA may be administered to treat and remove blood clots. It is especially useful for the lysis of occlusive coronary artery thrombi associated with evolving transmural myocardial infarction to improve ventricular function and reduce the risk of congestive heart failure. Additionally, it may be used in the management of acute massive pulmonary embolism, venous thrombosis and acute ischaemic stroke. Finally, tPA may be used in treating arterial thrombosis or embolism, arteriovenous cannulae occlusion and intravenous catheter clearance. In contrast to other plasminogen activators (e.g. urokinase and servely localised and (in theory) is less likely to produce systemic haemorrhagic disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This sequence represents the human erythropoietin protein. The invention relates to a recombinant DNA molecule adapted for expression of tissue plasminogen activator (tPA). The DNA molecule comprise a sequence encoding tPA, an expression control sequence operatively linked to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Recombinant DNA molecules encoding tissue plasminogen activator proteins, operatively linked to a scaffold attachment region, useful for the production of tissue plasminogen activator both in vivo and in vitro.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 2; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Awang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19-DEC-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-NOV-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US5985607-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             acute massive pulmonary embolism; venous thrombosis; arterial thrombosis; embolism; arteriovenous cannulae occlusion; plasminogen activator; intravenous catheter clearance; blood clot; erythropoietin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tissue plasminogen activator; protein expression; gene therapy; lysis; occlusive coronary artery thrombi; transmural myocardial infarction; ventricular function; congestive heart failure; acute ischaemic stroke;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SAR element;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (CANG-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence, and at least one human apolipoprotein B scaffold attachment ion (SAR) element (the SAR is not a 5' proximal apolipoprotein B SAR).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000-012788/01
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
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Best Local
                          The present sequence is human erythropoietin (Epo). Epo is a glycoprotein hormone necessary for the maturation of erythroid progenitor cells into erythrocytes. It has been discovered that hyperglycosylated Epo has a longer half-life and greater in vivo activity than recombinant human Epo. Several hyperglycosylated Epo mutants (AAY94531 to AAY94544) have been made by in vitro mutagenesis. Hyperglycosylated Epo analogs are useful as they may be used instead of recombinant Epo to increase and maintain the level of red blood cells in mammals. The Epo analogs may be used to treat or prevent anaenia associated with chronic renal failure, myelosuppressive therapy, certain cancers, viral disease such as HIV and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; erythropoietin; Epo; glycosylation; anaemia; chronic renal failure; myelosuppressive therapy; cancer; viral infection;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Elliott SG,
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No. 2.4e-86;
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                                                                                                                                                    The present sequence represents a human erythropoietin (EPO) polypeptide The human growth hormone protein is used as an inhibitor of the activation of nuclear factor-kappaB (MF-kappaB). The inhibitor inhibits activation of NF-kappaB, and thus transcription of the multi-drug resistance gene (which contains binding sites for NF-kappaB within its regulatory regions). The inhibitors are used to produce pharmaceuticals which may be used in the treatment of malignant hemopathy or solid tumours. The inhibitors are especially used to treat malignant blood diseases (leukaemia, lymphoma) and solid cancers (of breast or ovary)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Treatment of hematological or solid tumors using an inhibitor of the activation of nuclear factor-kappaB, particularly to prevent develop of resistance to chemotherapeutics.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; erythropoietin; EPO; inhibitor; nuclear factor-kappaB; NF-kappaB; multi-drug resistance gene; malignant hemopathy; solid tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 11; Page 30; 30pp; French.
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                        Score 846; DB 3;
Pred. No. 2.4e-86;
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Pred. No. 2.4e-86;
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                                                                                                                Matches
                                                                                                                                              Best
                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                           protein promotes erythropoiesis and can therefore be used to increase haematocrit levels in mammals with conditions such as anaemia, in which levels of haematocrit are insufficient. Mutants derived from the present designated NGEAs, do not themselves cause a significant increase in haematocrit but they acquire that property once they are derivatised with polyethylene glycol polymers. The analogues can be produced using a linkerless aldehyde modification process. They show stability and bioactivity in vivo. The compounds can be produced by recombinant DNA technology or by chemical procedures such as solution or solid-phase peptide synthesis
                                                                                                                                                                                                                              Sequence 193 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present sequence is the non-glycosylated erythroprotein NGE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 91-92; 94pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Non-glycosylated erythropoietic compound useful for increasing hematocrit level in mammal with insufficient hematocrit levels in conditions such as anemia, comprises protein covalently bonded to polymer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Beals JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-NOV-1998;
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                                                                                                                Conservative
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                                                                                                              Score 846; DB 3;
Pred. No. 2.4e-86;
Mismatches 0;
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28-MAR-2000;
19-APR-2000;
                                                                                                                                                                                                                                                                                                                                   The present invention provides the coding and protein sequences chimpanzee erythropoietin (EPO). These sequences can be used in therapy, to block the activity of EPO, as hybridisation probes, genetic and chromosome mapping and as therapeutic agents
             AAB85573;
                                    AAB85573 standard; protein; 193
                                                                                                                                                                                                                                                                                                              Sequence 193
                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Fig 3; 109pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Nucleic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (GETH ) GENENTECH INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chimpanzee; erythropoietin;
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                                                                                                                                                                                                                                   ب
                                                                                                                                                                                                                                                                                                                                                                                                                            acids encoding chimpanzee erythropoietin, useful for treatment emia, also derived proteins, antibodies and modulators.
                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                   VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                                                                                     APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                   PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                      PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                      APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                           Conservative
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2000US-0287594P.
2000US-00552265.
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                                                                                                                                                                                                                                                          Score 846; DB 4;
Pred. No. 2.4e-86;
; Mismatches 0;
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                                                                                                                                                                                                                                                                                  Length 193;
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RESULT 65
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Best Local Similarity
Matches 165; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chang W,
Kim J;
                                                                                                                                                                                                                                                                                                                      The invention relates to producing transgenic pigs (P) that secrete human erythropoietin (hEPO) in milk. The method involves administering PMSG and human chorionic gonadotrophic hormone (hCG) into (P), collecting fertilized eggs after mating, injecting expression vector containing a 2.6 kb WAP promoter, hEPO genome and SV40 poly A DNA into male pronuclei, transplanting them in surrogate mother pig and allowing it to give birth. The method provides transgenic porchae capable of secreting hEPO in their milk, thus producing the expensive useful medicine at a low cost with stability on a large scale, giving a contribution to the improvement of human health. The present sequence represents a human EPO sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Producing transgenic porcine that secretes human erythropoietin (hi milk, by introducing vector comprising hEPO genome into fertilized of porcine to which PMSG and hCG were administered, and developing
                                                                                                                                                                                                                                                                                   Sequence 193 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 4; Fig 3; 21pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Transgenic; pig; human; erythropoietin; EPO; milk; PMSG; hCG; chorionic gonadotrophic hormone; WAP promoter.
             AAE15341
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                                                                                                                                                                                                                                                                                                           incorporated into the genome of porcine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Peptide
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                                                                                                                                          61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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             standard;
                                                                                          PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                             VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                              APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                                                                                                               100.0%; Score 846; DB 4; ilarity 100.0%; Pred. No. 2.4e-86; Conservative 0; Mismatches 0;
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28. .193
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            protein; 193 AA
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Increasing comprising frequently
                                                                                                                                                                                                                                                                                                                                      for the maturation of erythroid progenitor cells into erythrocytes. Hugge analogue is useful for raising and maintaining haematocrit to a comparable target haematocrit in a mammal suffering from anaemia associated with a decline or loss of kidney function, myelosuppressive therapy comprising chemotherapeutic or anti-viral drugs or associated with excessive blood loss during surgical procedures, and in cancer condition. The present sequence is human Epo protein
                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a method for increasing and maintaining haematocrit in a mammal. The method comprises administering a hyperglycosylated analogue of erythropoletin (Epo) in a pharmaceutical composition, less frequently than an equivalent molar amount of and at lower molar amount than recombinant human Epo (rHuEpo) to obtain a comparable target haematocrit. Epo is a glycoprotein hormone necessary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Key
Peptide
 AAE32131 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; erythropoietin; Epo; haematocrit; anaemia; kidney function;
cancer; myelosuppressive therapy; anti-viral drug.
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                                                                                                                                                                                                                                                                                                            Sequence
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                                                                         148
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                                                                                                                                                                                                                                                    165;
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                                                                                          PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                   VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                            APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                              193
                                                                                                                                                                                           APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                         PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                   VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and maintaining hematocrit in mammal suffering from anemia, administering hyperglycosylated analog of erythropoietin learn and at lower molar amount of recombinant human erythropoiet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Elliott SG,
                                                                                                                                                                                                                                                    Conservative
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 protein;
                                                                                                                                                                                                                                                                 100.0%; Score 846; DB 5; 100.0%; Pred. No. 2.4e-86;
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CC derived from human erythropoletin gene (BPO) with single nucleotide
CC polymorphisms. Sequences of the invention are useful for preventing or
CC treating diseases such as cancers and tumours which include melanomas,
CC metastasising renal carcinomas, lymphomas such as follicular lymphomas,
CC and cutaneous T cell lymphoma, leukaemias including chronic lymphomytic
CC leukaemia and chronic myeloid leukaemia, cancers of the liver, neck, head
CC and kidneys, multiple myelomas, carcinoid tumours and tumours that appear
CC following an immune deficiency comprising Kaposi's sarcoma in the case of
CC AIDS; infectious diseases such as viral infections including chronic
CC hapatitis B and C and human immunodeficiency virus (HIV) acquired immune
CC diseases and disorders which include rejection of tissue or organ grafts,
CC allergies, asthma, psoriasis, rheumatoid arthritis, multiple sclerosis,
CC crohn's disease and ulcerative colitis, cardiovascular diseases such as
CC crohn's disease and ulcerative colitis, cardiovascular diseases such as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; erythropoietin; single nucleotide polymorphism; psoriasis; SNP; acquired immune deficiency syndrome; venereal disease; carcinoma; EPO; autoimmune disease; gastrointestinal diseorder; cardiovascular disease; Kaposi's sarcoma; ulcerative colitis; central nervous system disease; renal insufficiency; inflammatory process; radiotherapy; chemotherapy; metabolic disease; Alzheimer's disease; parkinson's disease; melanoma; schizophrenia; Crohn's disease; rheumatoid arthritis; cancer; obesity; tumour; depression; lymphoma; leukaemia; infection; pneumonia; asthma; genital wart; allergy; multiple myeloma; anaemia; therapy; AIDS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel polypeptide encoded by nucleotide sequence derived from human erythropoietin gene with single nucleotide polymorphisms, for diagnosing, preventing and treating cancers, infections and autoimmune diseases.
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21-DEC-2001; 2001US-0343163P
04-JAN-2002; 2002US-0345440P
21-FEB-2002; 2002US-0358598P
                                                    brain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to polypeptides encoded by nucleotide sequences
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injury and anaemias including anaemia in patients under dialysis insufficiency, as well as anaemia resulting from chronic insufficiency.
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Best Local (
                                                                                                                                                                The present invention relates to a fusion gene expressing specifically mammary glands comprising elements from 5' to 3' containing 5' flankii sequence of BLG (bovine lactoglobulin) and human BPO gene and 3' flank sequence of BLG. The fusion gene can be used for producing transgenic animals for producing human EPO. The present sequence was used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cheng
                                                                                                                                                                                                                                                                                                                                                                                          Production of transgenic animals with mammary glands secreting human erythropoietin (EPO) after constructing fusion gene for microinjectinto pronucleus of fertilized eggs, for use e.g. in treating renal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   metabolic diseases such as non-immune associated diseases such as obesity, central nervous system diseases including Alzheimer's disease rankinson's disease, schizophrenia and depression. gastrointestinal disorders and disorders connected with chemotherapy treatments. The
                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                       Example
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Pred. No. 2.4e-86;
Pred. No. 2.4e-86;
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Cerami C;
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03-JUL-2002; 2002US-0393423P.
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                                                                                                                                                                                                                                                                                                                                                                                         Claim 6;
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cytokine lacking at least one activity selected from increasing thaematocrit, vasoactive action, hyperactivating platelets, pro-coagulant activities and increasing production of thrombocytes. A mutein of the invention has vulnerary, neuroprotective, nootropic, ophthalmological, cardiovascular, respiratory, nephrotropic, uropathic, gynaecological, gastrointestinal, and endocrine activity. A polynucleotide encoding a cytokine of the invention may have a use in gene therapy. The recombinant tissue protective cytokine is useful for preparing a pharmaceutical composition for the protection against and prevention of a tissue injury as well as the restoration of and rejuvenation of tissue and tissue function in a mammal, where the injury is caused by a seizure disorder, multiple sclerosis, stroke, hypotension, cardiac arrest, ischaemia, myocardial infarction, inflammation, age-related loss of cognitive function, radiation damage, cerebral palsy, neurodegenerative disease,

The invention

relates

to a novel mutein recombinant tissue protective

Claim 5;

SEQ ID NO

10; 323pp;

English.

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RESULT 69
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                                                        New mutein recombinant tissue protective cytokines and encoding nucleic acid molecules, useful for protecting, restoring or enhancing the viability of responsive cells, tissues or organs in mammals, including
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03-JUL-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADH43900
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 193
                                                                                                                                                                                                                                                                                                                                                                                                                   (WARR-) WARREN INST INC KENNETH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              148
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                                                                                                                                                                                                                                                                                                                                                                                        LUNDBECK AS
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                                                                                                                                                                                                                                                                                       Kallunki P,
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                                                                                                                                                                                                                                                                                                                            Pedersen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2002US-0392455P
2002US-0393423P
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                                                                                                                                                                                                                                                                                                                     JT,
                                                                                                                                                                                                                                                                                       Christensen S,
                                                                                                                                                                                                                                                                                                                     Gerwien J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>,</u>
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Pred.
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. No. 2.4e-86;
smatches 0;
                                                                                                                                                                                                                                                                                       Bay K,
, Sager
                                                                                                                                                                                                                                                                                       Pedersen LO,
T, Brines M
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                                                                                                                                                                                                                                                                                           Brines M,
                                                                                                                                                                                                                                                                                    Leist M;
Cerami A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
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disease, brain or spinal cord trauma or iscnaemia, nearly without chronic heart failure, macular degeneration, diabetic neuropathy, diabetic retinopathy, glaucoma, retinal ischaemia, or retinal trauma composition and methods may be used for preventing or treating neurological disorders, ophthalmic diseases, cardiovascular diseases, cardiopulmonary diseases, respiratory diseases, kidney, urinary and reproductive diseases, gastrointestinal diseases or endocrine and metabolic abnormalities. The present sequence is used in the
                                                                                                                                                                                                                                                                                                             function in a mammal, where the injury is caused by a seizure disorder, multiple sclerosis, stroke, hypotension, cardiac arrest, ischaemia, myocardial infarction, inflammation, age-related loss of cognitive function, radiation damage, cerebral palsy, neurodegenerative disease, Alzheimer's disease, Parkinson's disease, Leigh disease, AIDS dementia, memory loss, amyotrophic lateral sclerosis, alcoholism, mood disorder, anxiety disorder, attention deficit disorder, autism, Creutzfeld-Jakob disease, brain or spinal cord trauma or ischaemia, heart-lung bypass, disease, brain or spinal cord trauma or ischaemia, heart-lung bypass,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cytokine lacking at least one activity selected from increasing haematocrit, vasoactive action, hyperactivating platelets, pro-coagulant activities and increasing production of thrombocytes. A mutein of the invention has vulnerary, neuroprotective, nootropic, ophthalmological, cardiovascular, respiratory, nephrotropic, uropathic, gynaecological, gastrointestinal, and endocrine activity. A polynucleotide encoding a cytokine of the invention may have a use in gene therapy. The recombinant tissue protective cytokine is useful for preparing a pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               composition for the protection against and prevention of a tissue injury as well as the restoration of and rejuvenation of tissue and tissue
193 AA;
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Query Match
Best Local :
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               121
                                              88
                                                               61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                        1 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                   Similarity
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                        APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                              VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                   Conservative
                                                                                                                                                                                  100.0%;
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                                                                                                                                                                  Score 846; DB 8;
Pred. No. 2.4e-86;
D; Mismatches 0;
                                                                                                                                                                                              Length 193;
                                                                                                                                                                   Indels
               165
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RESULT 70
ADH43912
ID ADH43
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AC ADH43
AC AD
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                                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mutant human erythropoietin
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                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                           human; mutant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gynaecological;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gastrointestinal;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entry)
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therapy; tissue injury;

WO2004003176-A2

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ADH78700
ID ADH7
XX
AC ADH7
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                                                                                                                                                                                                                                                                                                                                                                                                                                Cytokine lacking at least one activity selected from increasing Chaematocrit, vasoactive action, hyperactiveting platelets, pro-coagulant CC arctivities and increasing production of thrombocytes. A mutein of the CC invention has vulnerary, neuroprotective, nootropic, ophthalmological, CC gastrointestinal, and endocrine activity. A polymucleotide encoding a CC cytokine of the invention may have a use in gene therapy. The recombinant CC composition for the protection against and prevention of atissue injury as well as the restoration of and rejuvenation of itssue and tissue CC myocardial infarction, inflammation, age-related loss of cognitive function, radiation damage, cerebral palsy, neurodegenerative disease, CC memory loss, amyotrophic lateral sclerosis, alcoholism, mood disease, Parkinson's disease, Leigh disease, AIDS dementia, CC diabetic retinopathy, glaucoma, retinal ischaemia, or retinal trauma. The composition and methods may be used for preventing or treating to cardiocal diseases, gastrointestinal diseases or endocrine and cc exemplification of hearifain of spinal cord trauma or ischaemia, or retinal trauma. The composition and methods may be used for preventing or treating cord reproductive diseases, gastrointestinal diseases or endocrine and cc exemplification of the invention.
                                                                  RESULT 71
                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 165
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Cerami C;
                                                                                                                                                                                                                                                                                                                                                                                       Sequence
 ADH78700;
                                 ADH78700 standard; peptide; 193 AA
                                                                                                                                                                                                                                                                                                                                                                                                                         exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to a novel mutein recombinant tissue protective
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 4; SEQ ID NO 22; 323pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      viability of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New mutein recombinant acid molecules, useful
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                                                                                                                                   PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                        VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                                                                                                                     APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                           APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
                                                                                                                                                                                 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 147
                                                                                                                   PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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Kallunki P,
                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ecombinant tissue protective cytokines and encoding nucleic es, useful for protecting, restoring or enhancing the responsive cells, tissues or organs in mammals, including
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2002US-0393423P.
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                                                                                                                                                                                                                                                                                                                     100.0%; Score 846; DB 8; 100.0%; Pred. No. 2.4e-86; Live 0; Mismatches 0;
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Christensen S,
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Sager T, Brines M
                                                                                                                                                                                                                                                                                                                                                        Length 193;
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Cerami A;
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                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of a protein, where the protein is selected from cytokines and cytokine receptors. The method comprises combining a solution of differentiated dendritic cells and naive CD4+ and/or CD8+ T-cells with a pepset of peptides comprising the T-cell epitope. The composition and methods are useful in reducing the immunogenicity of cytokines and cytokine receptors such as interferon-beta, soluble tumour necrosis factor receptor-1, erythropoietin or thrombopoietin. These modified cytokines and cytokine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                receptors may be used for treating various conditions such as inflammation, cancer or anaemia. This sequence represents the human erythropoietin protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Determining T-cell epitope of a protein (e.g. cytokine or cytokine receptor), useful for reducing protein allergenicity, comprises combining differentiated dendritic cells and naive T-cells with a peptide having
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Harding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 T-cell epitope; cytokine; receptor; CD4+; CD8+; immunogenicity; interferon-beta; tumour necrosis factor receptor-1; erythropoietin; thrombopoietin; inflammation; cancer; anaemia; human erythropoietin
                                                                                                          ADL06801
                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 193 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to a novel method for determining a T-cell epitope of a protein, where the protein is selected from cytokines and cytokine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 4; SEQ ID NO 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAY-2002; 2002US-0376743P
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                                                                                                                                                                                                                                                                                                                                                                                          Local
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                                                                                                                                                                                                                                                                                                                                                                          165;
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                                                                                                                                                                                                                                                                                                                              APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                         standard; protein; 193
                                                                                                                                                                                                                                                                               VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                        PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                  PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                  VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                              APPRIICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Power SD
                                                                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        51pp;
                                                                                                                                                                                                                                                                                                                                                                          <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                     Score 846; DB 8;
Pred. No. 2.4e-86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ
                                                                                                                                                                                                                                                                                                                                                                          Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                      Length 193;
                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        erythropoietin
                                                                                                                                                                                        192
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                                                                                                                                                                                                                                                                                                                                                                          Gaps
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                                                                                                                                                                                                                                                  147
                                                                                                                                                                                                                                                                                                              87
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03-JUN-2004 (first entry)

Human 165 residue erythropoietin analogue #20

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Condition of 1-6 glycosylation sites, or by pegylation. Patients with CC diabetes have been found to have a high probability of be affected by CC disturbances of iron distribution. In such patients, the overall Concentration of iron in the body is normal (compared with consitions concentration in certain organs, leading to organ damage and destruction, CC accumulation in certain organs, leading to organ damage and destruction, CC and/or experience effects similar to anaemia due to iron usage in blood Cc ell formation being impaired. Erythropoietin causes bone marrow cells to increase production of reticulocytes and red blood cells, and this has CC been found to have a beneficial effect on iron distribution disturbances in diabetes e.g., non-insulin dependent (type 2) diabetes. Erythropietin CC proteins may therefore be used to manufacture a medicament for the creatment of disturbances of iron distribution in diabetes. Erythropietin CC erythropoietin which contain additional or altered glycosylation sites. Onte: The present sequence is not shown in the specification, but is careful or the wild-type 165 residue human EPO (ADL06780) and the
                                                                                                                                                                                                                                                                                                                                                                                                              Matches 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                erythropoietin protein is preferably a human erythropoietin (e.g., epoetin alpha and epoetin beta) which may be expressed by endogenous gene epoetin alpha and epoetin beta) which may be accepted by endogenous gene epoetin alpha and entormalism analomne such as darbepoietin alpha. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; erythropoietin; EPO; iron distribution disturbance; diabetes; non-insulin dependent diabetes; type 2 diabetes; reticulocyte production; red blood cell production; glycosylation site; analogue; antidiabetic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             activation or an erythropoeitin analogue such as darbepoietin alphaerythropietin protein used in the method may also be modified by the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page; 31pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disturbances
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                information given
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20-AUG-2003; 2003WO-EP009194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO2004019972-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   invention relates to the use of an erythropoietin (EPO) prot treatment of disturbances of iron distribution in diabetes.
121
                                                               121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         erythropoietin protein in manufacture of medicament for treating bances of iron distribution in diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HOFFMANN LA ROCHE & CO AG
                                   PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                     VEVWQGLALLSEAVLRGQALLVNSSQFWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                    APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
                                                                                                                                                                                                                                                                            APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                      VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            on page 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                   Score 846; UB o;
Pred. No. 2.4e-86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 193;
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tes. The
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RESULT 73

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APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA

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                                                                                                                              CC epoetin alpha and epoetin beta) which may be expressed by endogenous gene cativation or an erythropoetin analogue such as darbepoietin alpha. The caddition of 1-6 glycosylation sites, or by pegylation. Patients with care addition of 1-6 glycosylation sites, or by pegylation. Patients with care the form of iron distribution. In such patients, the overall concentration of iron in the body is normal (compared with conditions concentration in certain organs, leading to organ damage and destruction, cand/or experience effects similar to anaemia due to iron usage in blood call formation being impaired. Erythropoietin causes bone marrow cells to increase production of reticulocytes and red blood cells, and this has been found to have a beneficial effect on iron distribution disturbances in heart diseases e.g., heart insufficiency, coronary heart disease. CC heart failure. Erythropoietin proteins may therefore be used to compared the service of the 165 amino acid human erythropoietin which contain cadditional or altered glycosylation sites. Note: The present sequence is coro shown in the specification, but is derived from the wild-type 165 cresidue human EPO (AD059415) and the information given on page 6.
                                                     Matches
                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the treatment of disturbances of the treatment of disturbances of the erythropoietin (e.g., erythropoietin protein is preferably a human erythropoietin (e.g., epoetin alpha and epoetin beta) which may be expressed by endogenous gene epoetin alpha and epoetin alpha. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acute coronary syndrome; heart failure; congestive heart fail reticulocyte production; red blood cell production; cardiant; antiarteriosclerotic; glycosylation site; analogue; mutant; m
                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page; 31pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Use of erythropoietin protein in the manufacture of medicament for treating disturbances of iron distribution in heart diseases e.g. heart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lehmann P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22-NOV-2002; 2002EP-00026342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-NOV-2003; 2003WO-EP012822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO2004047858-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human 165 residue erythropoietin analogue #20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-AUG-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADO59436 standard; protein; 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (HOFF ) HOFFMANN LA ROCHE & CO AG
                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         invention relates to the use of an erythropoietin treatment of disturbances of iron distribution in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; erythropoietin; EPO; iron distribution disturbance; insufficiency; coronary heart disease; atheroscleros:
                                                     165;
                                                                      Similarity
                                                                                                                              193
APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                 100.0%; ilarity 100.0%; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Roeddiger R,
                                                                                                                              AA;
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                                                     0
                                               Score 846; DB o;
Pred. No. 2.4e-86;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           distribution in heart
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                                                                                       Length 193;
                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (EPO)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein for diseases. The
                                                     Gaps
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ARRESULT 74
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                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR71167 is a human erythropoietin (EPO) analogue with additional C-terminal amino acids (from the C-terminus of human chorionic gonadotrophin), which comprise at least one glycosylation site. This is used to increase the sialic acid content which in turn increases the solubility, half-life, biological activity and proteolysis resistance of the protein. The analogue is useful in claimed compsns. for the treatment of chronic renal failure associated anaemia. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Erythropoietin (EPO) analogues having additional glycosylation site(s) to increase sialic acid content, thereby increasing solubility, serum half-life, biological activity and resistance to proteolysis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 13; Page 80-81; 108pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human erythropoietin; glycosylation; sialic acid; solubility; biological activity; proteolysis resistance; anaemia; chronic renal failure;
                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1995-098764/13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human erythropoietin analogue carboxy glycosylation site
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31-OCT-1995
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121
                                                                                                                                                                                                                                                                                                                    165;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AMGEN INC
                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                       194
                              PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                     VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                        APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                                                                               100.0%;
llarity 100.0%;
Conservative 0;
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                                                                                                                                                                                                                                                                                                            Score 846; DB 2;
Pred. No. 2.4e-86;
; Mismatches 0;
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present sequence represents human erythropoietin clone 7.2 from the present invention. The present invention describes a new CHO strain of cultivated cells of Chinese hamster VSKK (P) 637 D, which produces human erythropoietin. The new strain is used as a new strain-producer of human erythropoietin, which can be used in medical therapy and research, and also in biological research. The use of the strain reduces the cost of production of human erythropoietin owing to increased productivity of the
                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure;
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                          PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                              APPRIT CDSRVLERY LLEAKEAENTTTGCAEHCSLNENTTVPDTKVNFYAWKRMEVGQQA
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/label= erythropoietin
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; Mismatches 0;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       early promoter and a sequence encoding resistance to an antibiotic. The product of the invention has antianemic activity. EPO regulates proliferation and differentiation of late erythrocyte precursor cells. (I) is used for the recombinant production of human EPO in mammalian cells. EPO is used, in replacement therapy, to treat anemia. Cells transformed with (I) produce EPO at a high level (e.g. 1500-1800 international units/ml) which is stable under non-selection conditions. The plasmid copy number in the cells can be increased without using the expensive and highly cytostatic agent methotrexate. This sequence represents the human erythropoietin protein which is described in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This invention describes a novel nucleic acid molecule (I) encoding an erythropoietin (EPO) polypeptide (II), transcriptional and translational regulatory sequences from simian virus 40 (SV40), including the SV40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New nucleic acid molecule comprising simian virus 40 regulatory sequences and antibiotic resistance gene, useful for expressing erythropoietin in mammalian cells for treating anemia.
                             ADL06826
                                                                                           ADL06826 standard; protein; 194 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 194 AA;
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                                                                                                                                                                                                                                                                                                     PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                                                                                   VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                                                                                                                                                                           The invention relates to the use of an erythropoietin (EPO) protein for the treatment of disturbances of iron distribution in diabetes. The CC erythropoietin protein is preferably a human erythropoietin (e.g., CC epoetin alpha and epoetin beta) which may be expressed by endogenous gene cc erythropietin protein used in the method may also be modified by the CC addition of 1-6 glycosylation sites, or by pegylation. Patients with CC diabetes have been found to have a high probability of be affected by disturbances of iron distribution. In such patients, the overall CC concentration of iron in the body is normal (compared with consitions such as anaemia), but the individual may suffer the effects of iron accumulation in certain organs, leading to organ damage and destruction, and/or experience effects similar to anaemia due to iron usage in blood Cc lormation being impaired. Erythropoietin causes bone marrow cells to increase production of reticulocytes and red blood cells, and this has been found to have a beneficial effect on iron distribution disturbances in diabetes e.g., non-insulin dependent (type 2) diabetes. Erythropietin proteins may therefore be used to manufacture a medicament for the reatment of disturbances of iron distribution in diabetes. Erythropietin which contain additional or altered glycosylation sites. Note: The present sequence is not shown in the specification, but is information griven on marge 6 (information cover on order 6 (information distribution, but is information griven on marge 6 (information account of the 16 (information) and the information of the 16 (information) and the information of the 16 (information) but is information account.
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                                                                                                                                                                                                                                           Sequence 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page; 31pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Use of erythropoietin protein in manufacture of medicament for treating disturbances of iron distribution in diabetes.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mutant; mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-JUN-2004
                                                                                                                                                                                                                                                                                 information given
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lehmann P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (HOFF ) HOFFMANN LA ROCHE & CO AG
61
                                                                                                                                                              165;
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                                                                                μ
                                                                                                                      1 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                 Similarity
                       VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
  VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                APPRILICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      residue erythropoietin analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Roeddiger R,
                                                                                                                                                              Conservative
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                                                                                                                                                                                                                                             AA,
                                                                                                                                                                                                                                                                                   on page
                                                                                                                                                                                 100.0%;
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                                                                                                                                                                                                                                                                                     6
                                                                                                                                                              0,
                                                                                                                                                            Score 846; DB 8;
Pred. No. 2.4e-86;
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                                                                                                                                                                                                  Length 194;
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RESULT 78
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Matches 165
                                                                                                                                                                                                                                                                                                   erythropoietin protein is preferably a human erythropoietin (e.g., epoetin alpha and epoetin beta) which may be expressed by endogenous gene activation or an erythropoietin analogue such as darbepoietin alpha. The erythropoietin protein used in the method may also be modified by the addition of 1-6 glycosylation sites, or by pegylation. Patients with heart diseases have been found to have a high probability of be affected by disturbances of iron distribution. In such patients, the overall concentration of iron in the body is normal (compared with conditions such as anaemia), but the individual may suffer the effects of iron accumulation in certain organs, leading to organ damage and destruction, and/or experience effects similar to anaemia due to iron usage in blood cell formation being impaired. Erythropoietin causes bone marrow cells to increase production of reticulocytes and reb blood cells, and this has been fewed to be a ferred blood cells, and this has
                                                                                                            been found to have a beneficial effect on iron distribution disturbances in heart diseases e.g., heart insufficiency, coronary heart disease, atheroscile acute coronary syndrome, heart failure and congestive heart failure. Brythropoietin proteins may therefore be used to manufacture a medicament for the treatment of disturbances of iron distribution in heart diseases. Sequences ADD59442-ADD59466 represent analogues of the 166 amino acid human erythropoietin which contain additional or altered glycosylation sites. Note: The present sequence is not shown in the specification, but is derived from the wild-type 166 residue human EPO (ADD59416) and the information given on page 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page; 31pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              treating distring insufficiency
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Use of erythropoietin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2004-450212/42.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antiarteriosclerotic; glycosylation site; analogue; mutant; mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      heart insufficiency; coronary heart disease; atherosclerosis; acute coronary syndrome; heart failure; congestive heart failure; reticulocyte production; red blood cell production; cardiant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-AUG-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADOS9461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADO59461 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                invention relates to the use of an erythropoietin (EPO) treatment of disturbances of iron distribution in heart
    165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  erythropoietin; EPO; iron distribution disturbance; heart disease;
                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  disturbances
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  Conservative
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                  100.0%; Score 846; DB 8; 100.0%; Pred. No. 2.4e-86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein in the manufacture of medicament for of iron distribution in heart diseases e.g. heart
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                                    Length 194;
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RESULT 79
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protein. The EPO was extended at the N-terminal by a proteolytic cleavage site. It was used to produce conjugates of the invention. The specification describes a conjugate comprising an EPO glycoprotein having an N-terminal alpha-amino group, chosen from human EPO (hEPO) or its analogues (where hEPO is modified by addition of 1-6 glycosylation sites or a rearrangement of a glycosylation site). The glycoprotein is covalently linked to a poly(ethylene glycol) group. The EPO glycoprotein has in vivo biological activity of causing bone marrow cells to increase production of reticulocytes and red blood cells. The conjugate increased circulating half-life and plasma residence time, decreased clearance, increased clinical activity in vivo, improved potency and stability, when
                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel conjugate of erythropoietin glycoprotein with polyethylene glycol, useful for treating diseases correlated with anemia in chronic renal failure patients and acquired immunodeficiency syndrome.
                                                                                                                                                                                                                                                                                                                          The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               red blood cell production; anaemia; acquired immunodeficiency syndrome; committed erythroid progenitor.
                                                                                                                                                                                                                                                                                                                                                                                   Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Burg J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-DEC-2000; 2000EP-00127891
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; erythropoietin; EPO; glycoprotein; reticulocyte production;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Amino acid sequence of a modified human erythropoietin (EPO).
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DB; ABL59290.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Engel A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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                                                                                                                                                                                                                                                                                           sequence represents a modified human erythropoietin (EPO) e EPO was extended at the N-terminal by a proteolytic cleavage
                                                                                                                                                                                                                                                                                                                                                                                   Fig 4; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
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28. .30
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1. .27
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Best Local
                                                                                                                                                                                                            Burg J,
Wozny M;
                     Novel conjugate of erythropoietin glycoprotein with polyethylene glycol, useful for treating diseases correlated with anemia in chronic renal failure patients and acquired immunodeficiency syndrome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                compared to unmodified EPO. The EPO conjugate is useful for preparing medicaments for the treatment and prophylaxis of diseases correlated with anaemia in chronic renal failure patients (CRF), acquired immunodeficiency syndrome (AIDS) and for treating cancer patients undergoing chemotherapy. It is also useful for treating patients by stimulating the division and differentiation of committed erythroid
                                                                                                                               WPI; 2002-566640/60.
N-PSDB; ABL59289.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; erythropoietin; EPO; glycoprotein; reticulocyte production; red blood cell production; anaemia; chronic renal failure; acquired immunodeficiency syndrome; AIDS; cancer; bone marrow; committed erythroid progenitor.
                                                                                                                                                                                                                                                                                                                                                                                             08-DEC-2001; 2001WO-EP014434.
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                                                                                                                                                                                                                                    Engel A,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequence of a modified human erythropoietin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "secretion signal peptide"
28. 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "proteolytic cleavage site"
36. .201
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; Pred. No. 2.5e-86;
Micmatches 0;
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CC protein. The EPO was extended at the N-terminal by a proteolytic cleavage
CC site. It was used to produce conjugates of the invention. The
CC specification describes a conjugate comprising an EPO glycoprotein having
CC an N-terminal alpha-amino group, chosen from human EPO (hEPO) or its
CC analogues (where hEPO is modified by addition of 1-6 glycosylation sites
CC or a rearrangement of a glycosylation site). The glycoprotein is
CC covalently linked to a poly(ethylene glycol) group. The EPO glycoprotein
CC has in vivo biological activity of causing bone marrow cells to increase
CC production of reticulocytes and red blood cells. The conjugate increased
CC circulating half-life and plasma residence time, decreased clearance,
CC increased clinical activity in vivo, improved potency and stability, when
CC compared to unmodified EPO. The EPO conjugate increased
CC immunodeficiency syndrome (AIDS) and for treating cancer patients
CC undergoing chemotherapy. It is also useful for treating patients by
CC stimulating the division and differentiation of committed erythroid
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                                                                                                                                                                                                                                                                            red blood cell production; anaemia; chronic renal
acquired immunodeficiency syndrome; AIDS; cancer;
committed erythroid progenitor.
                                                27-JUN-2002
                                                                                                                                                      Cleavage-site
                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                         Human; erythropoietin; EPO; glycoprotein; reticulocyte production;
                                                                                                                                                                                                                                                                                                                                                         Amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                      ABB77903;
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                                                                                                                                                                                    Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             201 AA;
                                                                                                                                                                                                                                                                                                                                                        sequence of a modified human erythropoietin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; ilarity 100.0%; Conservative 0
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                                                                                                         36. .20
/note=
                                                                                                                                    /note= "proteolytic cleavage site'
                                                                                                                                                                    /note= "secretion signal peptide"
                                                                                                                                                                                                   Location/Qualifiers
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                                                                                                                                                        . 35
                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                                                                           .201
                                                                                                        "EPO protein'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   English.
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Pred. No. 2.6e-86;
Pred. No. 2.6e-86;
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08-DEC-2001; 2001WO-EP014434

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RESULT 82
ADJ71846
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               specification describes a conjugate comprising an EPO glycoprotein having can N-terminal alpha-amino group, chosen from human EPO (hEPO) or its analogues (where hEPO is modified by addition of 1-6 glycosylation sites?

Coralently linked to a poly(ethylene glycol) group. The glycoprotein is covalently linked to a poly(ethylene glycol) group. The EPO glycoprotein covalently linked to a poly(ethylene glycol) group. The EPO glycoprotein for a in vivo biological activity of causing bone marrow cells to increase production of reticulocytes and red blood cells. The conjugate increased circulating half-life and plasma residence time, decreased clearance, increased clinical activity in vivo, improved potency and stability, when compared to unmodified EPO. The EPO conjugate is useful for preparing medicaments for the treatment and prophylaxis of diseases correlated with anaemia in chronic renal failure patients (CRF), acquired immunodeficiency syndrome (hIDS) and for treating cancer patients by stimulating the division and differentiation of committed erythroid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
Key
                               Unidentified
                                              Synthetic
                                                           Chimeric.
                                                                                             protease
                                                                                                          non-glycosylated erythropoietin analogue; EPO analogue;
                                                                                                                                          Non-glycosylated
                                                                                                                                                                         06-MAY-2004
                                                                                                                                                                                                                                       ADJ71846 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein. The EPO was site. It was used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Fig 5; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel conjugate of erythropoietin glycoprotein with polyethylene glycol, useful for treating diseases correlated with anemia in chronic renal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2002-566640/60
N-PSDB; ABL59291.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   present sequence represents a modified human erythropoietin cein. The EPO was extended at the N-terminal by a proteolytic if was used to produce conjugates of the invention. The
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  patients and acquired immunodeficiency syndrome.
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                                                                                                                                                                                                                                                                                                                                    PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACKTGD 165
                                                                                                                                                                                                                                                                                                                       PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                                                                                                                                                   VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                APPRLICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                             signal
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                                                                                                                                                                        (first entry)
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Location/Qualifiers
                                                                                                                                        EPO analogue with modified protease B signal peptide
                                                                                           peptide
                                                                                                                                                                                                                                       protein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
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Pred. No. 2.6e-86;
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                                                                                                            PEG; anaemia;
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GB2382580-A

Chimeric. Homo sapiens fusion protein; carboxy terminal peptide; CTP; human; thrombopoietin; TPO; erythropoietin; EPO; anaemia.

Human thrombopoietin/erythropoietin fusion protein

29-JUL-2004

(first entry)

ADO79063 standard;

protein;

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ADO79063
ID ADO79
XX ADO79
XX ADO79
XX ADO79
XX ADO79
XX Lumar
XX Lumar
XX TPO;
XX TPO;
XX TO05
XX Homo
OS Chime
XX PN GB238
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention comprises the amino acid and coding sequences of non-glycosylated erythropoietin (EPO) analogues, where the lysine at position 45 and/or 116 has been replaced with an amino acid that cannot be pegylated. The non-glycosylated EPO analogues of the invention are useful for treating anaemia. The present amino acid sequence represents a non-glycosylated EPO analogue with a modified protease B signal peptide.

NOTE: The present sequence is included in the sequence listing as SEQ ID No. 29, however another sequence on page 28 of the specification is also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A non-glycosylated erythropoietin (EPO) analog where the lysine at position 45 and/or 116 has amino acid that cannot be pegylated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 205 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            shown as
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cossar JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUL-2002; 2002US-0396750P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-JUL-2003; 2003WO-CA001020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference
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                                                                                                                                                                                                                                                                                                                                                 61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                                                                                                                                                                                                                                                      40
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID No
                                                                                                                                                                                                                                                                                          PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                      APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                             PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID
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                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
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/note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note= "Modified protease B signal peptide region"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               74pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 846; DB 8;
Pred. No. 2.6e-86;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       useful treating anemia, been replaced with an
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RESULT 84
ABB79339
ID ABB79
XX ABB79
XX ABB79
XX ABB79
XX ABB79
XX Humar
XX Humar
XX Humar
XX Homo
OS Synt!
XX Homo
OS Synt!
XX PFT Prot:
FT Pept:
FT Pept:
FT Pept:
FT Pept:
FT Put WO20
XX WO20
XX WO20
XX IO-D
XX
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel fusion protein having enhanced in vivo activity useful anemia, comprises carboxy terminal peptide of thrombopoietin carboxy terminal of human erythropoietin.
                                                                                                                                                                            Homo sapiens.
Synthetic.
                10-DEC-2001; 2001WO-KR002137
                                                                                                           Peptide
                                                                                                                                                                                                                      anaemia;
                                                                                                                                                                                                                                   Human chorionic gonadotropin; HCG; human; erythropoietin; EPO; ECTP;
                                                                                                                                                                                                                                                            Human erythropoietin-HCG C-terminal peptide fusion protein ECTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 209 AA;
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                                           20-JUN-2002.
                                                                                                                                                                                                                                                                                        12-DEC-2002
                                                                                                                                                                                                                                                                                                                                           ABB79939 standard; protein; 220
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                                                                   NO200248194-A1
                                                                                                                                       Protein
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DB; ADO79077.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                    therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                             PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VEVWQGIALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                                                                                                                                                                                                                                                                                               PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 192
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                                                                                                           /note= "human erythropoietin"
193. .220
                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                    antianaemic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 846; DB 7; 100.0%; Pred. No. 2.7e-86; tive 0; Mismatches 0;
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                                                                                              "HCG beta subunit CTP"
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ABR57656
ID ABR
XX ABR
XX ABR
DT 04-
DT 04-
DT PuB
XX Ant
KW Car
XX Syn
OS Syn
PN EP1
XX EP1
XX 14-
XX 14-
XX 03-
XX 03-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence is the protein sequence of a fusion protein, termed ECTP, in which the C-terminus of human erythropoietin (EPO) is fused with a C-terminal peptide (CTP) (see also ABB31359) of of human chorionic gonadotrophin (HGG) beta subunit. The CTP comprises amino acids 118-145 (see also ABB79937) of the HCG beta subunit. The invention provides ECTP fusion protein and nucleotide sequences encoding it, a plasmid containing the mucleotide sequences, a host cell (e.g. CHO) transfected with the plasmid, and a method for producing the fusion protein by cultivation of the transfected cell line. Fusion to HCG beta subunit CTP enhances the in vivo activity of EPO for treatment of anaemia. The CTP provides extra glycosylation sites, increasing the half-life of EPO without loss of the inherent activity of EPO and without causing any antigenicity when applied to the human body. Pharmacokinetic experiments performed in mice showed that ECTP had 2.5 times longer half-life than EPO
                   03-DEC-2001; 2001KR-00075994
                                                  14-AUG-2002; 2002EP-00255679
                                                                                                                                                                                 Antianaemic; human; EPO; CTP; HCG; erythropoietin; Carboxyl Terminal Peptide; human chorionic gonadotropin; anaemia
                                                                                                                                                                                                                                 Fusion protein comprising erythropoietin and mutant
                                                                                                                                                                                                                                                                      04-DEC-2003
                                                                                                                                                                                                                                                                                                                                      ABR57656 standard; protein; 220
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel fusion protein useful for industrial purposes, comprises carboxy terminal of human erythropoietin fused with carboxy terminal peptide fragment of beta subunit of human chorionic gonadotropin.
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21-NOV-2001; 2001KR-00072713.
                                                                                 04-JUN-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                         PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          220 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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Pred. No. 2.9e-86;
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI;
                             Recombinant haematopoietic molecules useful comprise IL3 or GM-CSF and EPO, G-CSF, IL-5 later myeloid differentiation activity.
                                                                                              Rosen
                                                                                                                                         28-SEP-1990;
                                                                                                                                                             26-SEP-1991;
                                                                                                                                                                                   16-APR-1992
                                                                                                                                                                                                         WO9206116-A.
                                                                                                                                                                                                                              Homo
                                                                                                                                                                                                                                                    IL-3; EPO; haematopoiesis
                                                                                                                                                                                                                                                                         Recombinant hematopoietic molecule
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                                                                                                                                                                                                                                                                                                                                         AAR23596
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      carboxyl terminal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New fusion protein, useful for treating anemia, comprises human erythropoletin having a carboxyl terminal and a carboxyl terminal fragment of a human chorionic gonadotropin beta-subunit linked to
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165; Conser
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                                                                                                                                                                                                                                                                                                                                        standard;
                                                                                                                                                                                                                                                                                                                                                                                                           PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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llarity 100.0%;
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Pred. No. 2.9e-86;
Mismatches 0;
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Disclosure; Page 34; 82pp; English

This protein sequence given comprises the entire amino acid sequence of recombinant haematopoietic molecule, with the amino portion comprisng Eleand the carboxyl portion comprising IL-3. (Specific sequences for these portions are given in AAR23591 and AAR23593.) Within the scope of the

molecules were produced which

contain

at least a

isng EPO portion

portions are given invention hybrid mc

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RESULT 87
AAR23598
ID AAR23
XX AAR23
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XX IL-3;
XX IL-3;
XX IL-3;
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                                                                                                                                                                                                                              Recombinant haematopoietic molecules useful comprise IL3 or GM-CSF and EPO, G-CSF, IL-5 later myeloid differentiation activity.
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1. No. 4.6e-86;
                                                                                                                                                                                                                                                               in treating anaemia(s) or M-CSF and has early
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                                                                                Recombinant haematopoietic mol
comprise IL3 or GM-CSF and EPC
later myeloid differentiation
 The amino acid sequence given is an IL-3:Epo hybrid growth factor derived from a construction formed by ligating various synthetic oligonucleotides corresponding to Epo and IL-3 gene sequences. This hybrid growth factor is a recombinant haematopoietic molecule which contains at least a
                                                           Disclosure;
                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                               Early MDF; late
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                                                                                                                                                                                                                                                                                                                                                                                               MDF;
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/label= mat_protein
                                                           42;
                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                              haematopoiesis; IL-3; Epo; growth
                                                           82pp;
                                                                                              molecules useful
EPO, G-CSF, IL-5
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Pred. No. 4.7e-86;
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ARESULT 89
AAA23597
ID AAA23
XX AAA23
XX AAA23
XX DT 20-OC
XX IL-3;
XX IL-3;
XX IC-AF
PD 16-AF
PF 26-SE
XX ORTH
PF ROSER
XX WPI;
XX RECOM
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                                                                                                                                                                                                                                                                                                                                                                                Recombinant haematopoietic molecules useful comprise IL3 or GM-CSF and EPO, G-CSF, IL-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1992-150819/18.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Recombinant hematopoietic molecule
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Pred. No. 5.1e-86;
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invention hybrid molecules were produced which contain at least a portion of an early MDF and at least a portion of a late MDF covalently linked. These compounds can be used to promote heamatopoiesis in a patient. The bonding of the early and late factors allows a very high conc. of late MDF at the surface of a cell which the early MDF is bound. It also allows the early MDF to act more specifically to stimulate only the desired

This protein sequence given comprises the entire amino acid sequence of recombinant haematopoietic molecule, with the amino portion comprisng II and the carboxy portion comprising EPO. (Specific sequences for these portions are given in AAR23591 and AAR23593.) Within the scope of the

Disclosure; Page 36; 82pp;

English.

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                                                This protein sequence given comprises the entire amino acid sequence of a recombinant haematopoietic molecule, with the amino portion comprising EPO and the carboxyl portion comprising II-3. (Specific sequences for these portions are given in ARAZ3591 and ARAZ3593.) Within the scope of the invention hybrid molecules were produced which contain at least a portion of an early MDF and at least a portion of a late MDF covalently linked. These compounds can be used to promote heamatopoiesis in a patient. The bonding of the early and late factors allows a very high conc. of late MDF at the surface of a cell which the early MDF is bound. It also allows the early MDF to act more specifically to stimulate only the desired lineage, thus reducing undesirable effects. These compounds are useful for treating anaemias of various origins eg.renal failure and AIDS. It is easier to produce and administer one recombinant molecule rather than two
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure;
                                 separate molecules
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Pred. No. 5.1e-86;
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from a construction formed by ligating the native Epo signal sequence and various synthetic oligonucleotides corresponding to Epo and IL-3 gene sequences. This hybrid growth factor is a haematopoietic molecule which contains at least a portion of an early MDF and at least a portion of a late MDF covalently linked. This compound can be used to promote allows a very high conc. of late MDF at the surface of a cell which the early MDF is bound. It also allows the early MDF to act more specifically to stimulate only the desired lineage, thus reducing undesirable effects. These compounds are useful for treating anaemias of various origins eg.renal failure and AIDS. It is easier to produce and administer one recombinant molecule rather than two separate molecules
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                                                                                                                                                                                                                                                                                             N-PSDB; AAQ24282.
                                                                                                                                                                          The amino acid sequence given is an Epo:IL-3 hybrid growth factor derived
                                                                                                                                                                                                       Disclosure; Page 44; 82pp; English.
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                                                                                                                                                                                                                                    later myeloid differentiation activity.
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The amino acid sequence given is an IL-3:Epo hybrid growth factor derived from a construction formed by ligating various synthetic oligonuclectides corresponding to Epo and IL-3 gene sequences. The sequence given is comparable to that given in AAR23075 except that a longer linker has been incorporated into this sequence. This hybrid growth factor is a recombinant haematopoietic molecule which contains at least a portion of an early MDF and at least a portion of alate MDF covalently linked. This compound can be used to promote heamatopoiesis in a patient. The bonding of the early and late factors allows a very high conc. of late MDF at the surface of a cell which the early MDF is bound. It also allows the early MDF to act more specifically to stimulate only the desired lineage, thus reducing undesirable effects. These compounds are useful for treating
                                                                                                                                                                                                                                                                                                                                                                                                                     Recombinant haematopoietic molecules useful in comprise IL3 or GM-CSF and EPO, G-CSF, IL-5 or later myeloid differentiation activity.
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Pred. No. 5.3e-86;
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N-PSDB; AAQ24285.
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                                                                                                                                                                                                                                                                               26-SEP-1991;
                                                                                                                                                                                                                                                                                                     16-APR-1992
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                                                                                                                                                                                                                                                                                                                                                                               Peptide
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                                                                                                                                 differentiation activity.
                                                                                                                                                                                                                                   PHARM CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                            recombinant hematopoietic molecule
                                                                                                                                                                                                                                                         90US-00589958
                                                                                                                                                                                                                                                                               91WO-US007053
                                                                                                                                                                                                                                                                                                                                                                                                                                      MDF; haematopoiesis; Epo; IL-3; linker; growth factor.
                                                                                                                                                                                                                                                                                                                                                            /label= sig_peptide
28. .349
                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
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No. 5.5e-86;
                                                                                                                                            in treating anaemia(s) or M-CSF and has early
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The amino acid sequence given is an Epo:IL-3 hybrid growth factor derived from a construction formed by ligating the native Epo signal sequence and various synthetic oligonucleotides corresponding to Epo and IL-3 gene sequences. This molecule is comparable to the sequence given in ARR33076 and contains a flexible linker molecule. This hybrid growth factor is a haematopoietic molecule which contains at least a portion of a lare MDF covalently linked. This compound can be used to promote heamatopoiesis in a patient. The bonding of the early and late factors allows a very high conc. of late MDF at the surface of a

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Query Match
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Best Local
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                                                                       The invention comprises a fusion protein consisting of the carboxy terminal peptide (CTP) of human thrombopoletin (TPO) fused to the carboxy terminal of human erythropoletin (BPO). The fusion protein of the invention is useful for the treatment of anaemia. The present amino acid sequence represents a human thrombopoletin/erythropoletin fusion protein
                                                                                                                                                                           Novel fusion protein having enhanced in vivo activity useful for treating anemia, comprises carboxy terminal peptide of thrombopoietin fused with carboxy terminal of human erythropoietin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TPO;
                                    Sequence
                                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                   Lee
                                                                                                                                                                                                                                                                                                                  29-NOV-2001; 2001KR-00074975
                                                                                                                                                                                                                                                                                                                                           06-AUG-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     fusion protein; carboxy terminal peptide; CTP; human; thrombopoietin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human thrombopoietin/erythropoietin fusion protein #1.
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DB; ADO79076.
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Pred. No. 5.7e-86;
Mismatches 0;
Score
Pred.
                                                                                                                                                   English.
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846; DB 7;
No. 6.2e-86;
                                                                                                                                                                                                                                                                   7
           Length 370;
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RESULT 95
AAW99360
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Best Local S
Matches 165
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                                                                                                                                                                                      This sequence represents a human erythropoietin (EPO) homodimeric fusion protein. The invention relates to the production of dimeric, trimeric or polymeric fusion proteins with increased biological activity. The fusion proteins are used to treat or prevent protein-related deficiency states, specifically, where the protein is erythropoietin (EPO; AAX25689), anaemia, but also for increasing proliferation, differentiation and activity of haematopoietic progenitors (e.g. increasing numbers of leucocytes and granulocytes in the blood of myelosuppressed patients) or for treating cancer and other cell growth disorders
                                                                                                                                                 Sequence 376 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                    Example 1; Fig 16A-C; 119pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New fusion protein with increased activity comprising at least protein molecules - used to, e.g. treat erythropoietin related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sytkowski AJ;
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03-FEB-1998;
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Synthetic.
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biological activity; anaemia; proliferation; differentiation; progenitor;
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                                                                                ocal Similarity
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DB; AAX25701.
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                                                            100.0%; llarity 100.0%; Conservative 0
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98US-00018138.
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                                                            Score 846; I
Pred. No. 6.4
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No. 6.4e-86;
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deficiency
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APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA

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PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD

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                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention relates to an aerosol which comprises a conjugate of a therapeutic agent and neonatal Fc receptor (FCRn) binding partner. The particles in the aerosol have a mass median aerodynamic diameter (MMAD) of at least 3 micro m. The aerosol can be used for the systemic delivery of a therapeutic agent (e.g. antigen) (e.g. tumour antigen), polypeptide, oligonucleotide (e.g. antisense oligonucleotide), erythropoietin, growth hormone, interferon-alpha, interferon-beta and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Aerosol useful for systemic delivery of a therapeutic agent e.g. erythropoietin, growth hormone, interferon-alpha, or interferon-beta, comprises a conjugate of the agent and neonatal epithelial receptor-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        erythropoietin, growth hormone, interferon-alpha, follicle stimulating hormone). The present sequen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Blumberg
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Transepithelial systemic delivery; therapeutic delivery; aerosol; FCRn binding partner; lung.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              exemplification
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                                                                                      VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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Pred. No. 7.7e-86;
; Mismatches 0;
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neonatal Fc receptor; central airway epithelium; lung; antigen; tumour antigen; erythropoietin; EPO; growth hormone; interferon-alpha; IFN-alpha; interferon-beta; IFN-beta; follicle stimulating hormone; FSH; therapeutic antibody; CAMPATH; SIMULECT; ZENAPAX; REMICADE; HUMIRA; SYNAGIS; RITUXAN; HERCEPTIN; CEA-CIDE; pneumonia; lung cancer; extranodal pulmonary non-Hodgkin's lymphoma; allograft rejection; autoimmune disease; rheumatoid arthritis; Crohn's disease; antirheumatic;
                                                                                                             Systemic delivery of therapeutic amount of aerosol of therapeutic binding partner to lung.
                                                                                                                                                                                        Blumberg
                                                                                                                                                                                                                                                                 03-JUL-2002; 2002WO-US021335
                                                                                                                                                                                                                                                                                     09-MAY-2003; 2003WO-US014428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    antiarthritic; cytostatic; antiinflammatory; immunotherapy; vaccine;
human; immunoglobulin G1; IgG1 Fc fragment; Fc-gamma-1;
Kb signal peptide; fusion protein; plasmid pED.dC.natEpoFc.
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                                                                                            Example 5;
                                                                                                                                                                                                                                  (BGHM )
(UYBR-)
                                                                                                                                                                                                                                                                                                                                                                                                     Region
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                                                                                                                                                                                                                         CHIL-)
                                                                                                                                                          2004-099348/10.
DB; ADO10512.
                                                                                                                                                                                                                                  BRIGHAM & WOMENS HOSPITAL UNIV BRANDEIS.
                                                                                                                                                                                                              SYNTONIX PHARM INC.
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202. .4
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                                                                                                                                                                                                                                                                                                                                                                       "8 residue peptide linker
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                                                                                                                                                                                          Simister
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                                                                                            English.
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                                                                                                                         agent involves administering effective agent and neonatal Fc receptor (FcRn)
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The invention relates to a method for the transepithelial systemic delivery of a therapeutic agent. The method involves administering an effective amount of an aerosol of a therapeutic agent (especially an antibody) and a neonatal FC receptor (FCRn) binding partner to the lungs such that a central lung zone/peripheral lung zone deposition ratio (C/P ratio) is 0.7 or more. Human FCRn is expressed in adult epithelial tissues, and provides a receptor-specific mechanism for transport across an epithelial barrier. Its expression has been found to be more extensive

extensive

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RESULT 98
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CC in central airways than in the periphery of the lung. The invention also CC relates to an aerosol of a conjugate of a therapeutic agent and an FCRN CC binding partner, where the aerosol particles have a mass median CC system; and a method for its manufacture. The method can be used to administer a wide variety of therapeutic agents to central airway CC epithelium. Such therapeutic agents include oligonucleotides (including antisense oligonucleotides) or proteins such as antigens (especially tumour antigens), erythropoietin (EPO), growth hormone, interferon-alpha (IFN-alpha), interferon-beta (IFN-beta), follicle stimulating hormone (FSH) and especially therapeutic or diagnostic antibodies. Therapeutic cantibodies that may be administered using the method of the invention CC (FSH) and especially therapeutic or diagnostic antibodies that may be administered using the method of the invention CC virus (RSV), CD20, HER2 or CEA, Selected from CAMPATH, SIMULECT, ZENAPAX, CC REMICADE, HUMRAR, SYNAGIS, RITUXAN, HERCEPTIN and CEA-CIDE. Therapeutics administered using the method of the invention may be used to treat deep lung diseases such as RSV pneumonia, cytomegalovirus (CWV) pneumonia, CC primary and metastatic lung cancer, and extranodal pulmonary non-cc relection, and autoimmune diseases such as cancer and allograft creduction, and sucoimmune diseases shoes a from rheumation archeints and CC (Crohn's disease The present seminore represents a fusion protein.
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Best Local :
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                                                           Protein
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                                                                                                                                                                          Peptide
                                                                                                                                                                                                 Key
                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                           fragment crystallisation region; Fc; chronic anaemia; renal cancer chemotherapy; rheumatoid arthritis; AIDS; myelodysplastic syndrome; (HuEPO)-L-vFcgammal; human.
                                                                                                                                                                                                                                                                                                                                                       Erythropoietin; EPO; immunoglobulin; IgG;
                                                                                                                                                                                                                                                                                                                                                                                                Human HuEPO-L-vFcgammal fusion protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Crohn's disease. The present sequence represents a fusion protein comprising the native human EPO signal peptide, human EPO and the human IGG1 Fc fragment (Fc-gamma-1), which is encoded by plasmid
                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        atch 100.0%; Score 846; DB 8; sal Similarity 100.0%; Pred. No. 7.7e-86; 165; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   148
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                                                           209.
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193. .2
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note= "Wild-type Leu substituted by Val"
                                  'note= "IgG1 Fc"
                                                                         note= "Linker"
                                                                                                                                                          'note= "Signal peptide"
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                                                                                                                                                                                                                                                                                                                             recombinant human erythropoietin-L-vFC fusion proteins are useful for treating patients with chronic anaemia caused by renal failure, cancer chemotherapy, rheumatoid arthritis, azathioprine treatment for HIV infection, or myelodysplastic syndrome. The increased activity and prolonged presence of the human erythropoietin-L-vFC fusion protein in the serum, as compared to prior art, leads to lower dosages and less frequent injections. Less fluctuations of the drug in serum concentrations means improved safety and tolerability, and less frequent injections result in better patient compliance and quality of life. The present sequence represents the fusion protein HubPO-L-vFcgammal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to a recombinant human erythropoietin (HuEPO)-L-vPC fusion protein comprising HuEPO, a peptide linker, and a human immunoglobulin GFC (fragment crystallisation region) variant. Also included is a carbohydrate-derived cell line producing the human erythropoietin-L-vFC fusion protein cited above in its growth medium in excess of 10 microgramme per million cells in a 24-hour period The HuEPO L-vFC fusion protein exhibits an enhanced in vitro biological activity of at least 2-fold relative to that of recombinant HuEPO on a molar basis. The flexible peptide linker containing about 20 or fewer amino acids is present between HuEPO and the human IgG FC variant. The IgG FC contains amino acid mutations to attenuate effector functions. The human IgG with Pro331Ser mutation, human IgG4 with Ser2zBPTO and Leu235Ala mutations, or human IgG1 with Leu234Val, Leu235Ala and Pro331Ser mutations. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New recombinant human erythropoietin-L-vFc fusion proteins, useful for treating patients with chronic anemia caused by renal failure, cancer chemotherapy, rheumatoid arthritis, or azathioprine treatment for HIV
                                                                                                                                                                                                                                                                                                  Sequence 435 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 5;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-616080/58.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (SUNC/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-AUG-2001; 2001US-00932812.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-AUG-2001; 2001US-00932812
                                                                                                                                                                                                                                           Local Similarity
 148
                                                                                                                                                                                                                        165;
                                                                                                           61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                 28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUN L K.
SUN B N C.
SUN C R Y.
                                                                                                                                              Sun BNC,
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                        VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fig
                                 PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "Wild-type Leu substituted by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sun
                                                                                                                                                                                                                                       100.0%;
                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                         Score 846; DB 7;
Pred. No. 7.9e-86;
                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                           <u>.</u>
                                                                                                                                                                                                                                                             Length 435;
                                                                                                                                                                                                                        Indels
192
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                                                                                                                                                                                                                        0
                                                                                                                                                                                                                        Gaps
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RESULT 99 ADR48988

147

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C(HHEPO), a peptide linker, and a human IgG Fc variant, is new.

C(HHEPO), a peptide linker, and a human IgG Fc variant, is new.

C(INDEERNENT CLAIMS are also included for the following: a chinese hamster covary (CHO)-derived cell line producing the HuEPO-L-vFc fusion protein in C(its growth medium in excess of 10 µ g per million cells in a 24 hour period; and a method for making a recombinant fusion protein comprising CH HuEPO, a flexible peptide linker, and a human IgG Fc variant. Preferred Protein: The peptide linker containing 20 or fewer amino acids is present between HuEPO and the human IgG Fc variant, and comprises two or more numan IgG Fc variant protein comprises the or more comming IgG Fc variant protein comprises the or more linker, and in IgG Fc variant, and comprises two or more comming IgG Fc variant protein comprises a hinge, CH2, and CH3 domains of human IgG Fc variant protein comprises a hinge, CH2, and CH3 domains of human IgG Fc variant comprises a hinge, CH2, and CH3 domains of human IgG Fc variant comprises a hinge, CH2, and CH3 domains of human IgG Fc variant comprises a hinge, CH2, and CH3 domains of human IgG Fc variant comprises a hinge, CH2, and CH3 domains of human IgG Fc variant comprises a hinge, CH2, and CH3 domains of human IgG Fc variant protein protein in its growth medium in excess C IgG ID NO. 22). The HuEPO-L-vFc fusion protein in its growth medium in excess C IgG ID NO. 22). The HuEPO-L-vFc fusion protein in its growth medium in excess C IgG ID NO. 22, IgG2 as SEQ ID NO. 18, and IgG4 as SEQ ID NO. 20, The IgG Fc contains amino acid mutations to attenuate effector functions, the Igg Fc variant comprises a hinge, CH2, CH3 domains of human IgG selected from C IgG Fc variant comprises generating a CH0-derived cell line recombinant to between HuEPO and human IgG Fc variant, and the HuEPO-L-vFc fusion that of rHuEPO on a molar basis. Preferred Method: Making a recombinant C IgG Fc variant comprises; generating a CH0-derived cell line; growting the comprising HuEPO and human 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (SUNE/) SUN (SUNC/) SUN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New recombinant HuEPO-L-vFc fusion protein comprises human erythropoietin (HuEPO), a peptide linker, and a human IgG Fc variant, useful for treating chronic anemia due to renal diseases, cancer chemotherapy, or rheumatoid arthritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 5; SEQ ID NO 22; 31pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2004-634851/61.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antianaemic;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-DEC-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AZT treatment; HIV infection; myelodysplastic syndrome; renal failure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADR48988 standard; protein; 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sun BNC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0 8 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nephrotropic; human; HuEPO-L-vFc; erythropo al disease; cancer chemotherapy; rheumatoid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ВИХ
КО
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RESULT 100
ADM33853
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA segments. To obtain the gene encoding the leader peptide and mature protein of human erythropoietin (EPO), cDNA library of human fetal liver or kidney was used as the template in polymerase chain reaction (PCR). For the convenience of cloning, SEQ ID NO. 1 which incorporates a restriction enzyme cleavage site is used as the 5' oligonucleotide primer. The 3' primer (SEQ ID NO. 2) eliminates the EPO termination codon and incorporates a BamHI site. The resulting DNA fragments of approximately 600 bp were inserted into a holding vector such as pUCl9 at the HindIII and BamHI sites to give the pEPO plasmid. The sequence of the human EPO gene was confirmed by DNA sequencing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            that of rHUEPO on a molar basis. Antianemic; Nephrotropic. No biological data given. None given. Administration can be through subcutaneous or intravenous route. No dosage given. The recombinant HUEPO-L-VFC fusion protein is useful for treating patients with chronic anemia due to renal diseases, cancer chemotherapy, rheumatoid arthritis, AZT treatment for HIV infection, or myelodysplastic syndrome. It is also useful in the treatment of renal failure. A fusion protein was assembled from several
                                                                                                                                                                                                                                                                                                                                                                             fragment crystallisation region; Fc; chronic anaemia;
cancer chemotherapy; rheumatoid arthritis; AIDS;
myelodysplastic syndrome; (HuEPO)-L-vFcgamma2; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 435 AA;
              17-AUG-2001; 2001US-00932812
                                                   01-MAY-2003
                                                                                                                                      Misc-difference
                                                                                                                                                                                                       Peptide
                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human HuEPO-L-vFcgamma2 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADM33853 standard; protein; 436
                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                          Protein
                                                                                                                                                                                                                                                                           Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                 Erythropoietin;
                                                                                    JS2003082749-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Sim;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                               EPO; immunoglobulin; IgG;
                                                                                                                                                                          209.
                                                                                                                                                                                                                                          28. .192
                                                                                                                                                                                                                        /note= "EPO"
                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                    /note= "Wild-type Pro substituted
                                                                                                                                                                                        /note= "Linker"
                                                                                                                                                                                                                                                          /note= "Signal peptide"
                                                                                                                                                    note= "IgG2 Fc"
                                                                                                                                                                                                          . 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 846; DB 8;
100.0%; Pred. No. 7.9e-86;
tive 0; Mismatches 0;
                                                                                                                                                                          . 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 435;
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                                                                                                                                                                                                                                                                                                                                                                                                                   renal disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              192
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to a recombinant human erythropoietin (HuEPO)-L-vFC CC fusion protein comprising HuEPO, a peptide linker, and a human CC immunoglobulin G Fc (fragment crystallisation region) variant. Also CC included is a carbohydrate-derived cell line producing the human CC erythropoietin-L-vFc fusion protein cited above in its growth medium in CC excess of 10 microgramme per million cells in a 24-hour period. The HuEPO CC -L-vFc fusion protein exhibits an enhanced in vitro biological activity CC of at least 2-fold relative to that of recombinant HuEPO on a molar CC basis. The flexible peptide linker containing about 20 or fewer amino CC contains amino acid mutations to attenuate effector functions. The human IgG Fc variant comprises a hinge, CH2 and CH3 domains of human IgG? with CC contains amino acid mutations to attenuate effector functions. The human CC contains amino acid mutations to attenuate effector functions. The human CC contains amino acid mutations to attenuate effector functions. The human CC contains amino acid mutations to attenuate effector functions. The human CC reacting patients with chronic anaemia caused by renal failure, cancer CC treating patients with chronic anaemia caused by renal failure, cancer CC treating patients with chronic anaemia caused by renal failure, cancer CC infection, or myelodysplastic syndrome. The increased activity and CC prolonged presence of the human erythropoietin-L-vFc fusion protein in CC frequent injections means improved safety and tolevability, and less frequent CC contentrations means improved safety and tolevability, and less frequent CC injections result in better patient compliance and quality of life. The CC injections result in better patient compliance and quality of life. The CC injections result in better patient compliance and quality of life. The CC injections result in the fusion protein HuEPO-L-vFcgamma2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
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antianaemic; nephrotropic; human; HuEPO-L-vFc; erythropoietin; EPO anaemia; renal disease; cancer chemotherapy; rheumatoid arthritis;
                                                                 HuEPO-L-Fc fusion protein.
                                                                                                                                                                                          ADR48984 standard; protein; 436 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 3; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New recombinant human erythropoietin-L-vFc fusion proteins, useful for treating patients with chronic anemia caused by renal failure, cancer chemotherapy, rheumatoid arthritis, or azathioprine treatment for HIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
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                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         165;
                                                                                                                                                                                                                                                                                                                                                                                    88
                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUN C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sun BNC,
                                                                                                                                                                                                                                                                                                                                                                                                        VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                                                                                                                                                                                           PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                                                    VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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(SUNE/)
                                                                                                                                                                               Homo sapiens.
Synthetic.
 N-PSDB;
                                                                                             17-AUG-2001;
                                                                                                                   21-JAN-2004; 2004US-00761593
                                                                                                                                        09-SEP-2004
                                                                                                                                                          US2004175824-A1
                                                                                                                                                                                                               AZT treatment; HIV infection; myelodysplastic syndrome; renal failure.
           2004-634851/61.
                                                    SUN
SUN
NUS
ADR48983.
                             Sun BNC,
                                                   OBL
NRX
                                                                                              2001US-00932812
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New recombinant HuEPO-L-vFc fusion protein comprises human erythropoietin (HuEPO), a peptide linker, and a human IgG Fc variant, useful for treating chronic anemia due to renal diseases, cancer chemotherapy, or rheumatoid arthritis.

Claim 3; SEQ ID NO 18; 31pp; English

CC period; and a method for making a recombinant fusion protein comprising CC Hubbo, a flexible peptide linker, and a human IgG Fc variant. Preferred CC Protein: The peptide linker containing 20 or fewer amino acids is present CC between Hubbo and the human IgG Fc variant, and comprises two or more CC amino acids selected from glycine, serine, alanine, and threonine. The Chuman IgG Fc variant comprises a hinge, CH2, and CH3 domains of human CC IgG2 with Pro331Ser mutation comprising 436 amino acids (SEQ ID NO. 18). CC Ser228Pro and Leu235Ala mutations comprising 437 amino acids (SEQ ID NO. 18). CC Ser228Pro and Leu235Ala, and Pro331Ser mutations comprising 435 amino acids (SEQ ID NO. 18). CC 20). It further comprises a hinge, CH2, and CH3 domains of human IgG4 with Leu234Val, Leu235Ala, and Pro331Ser mutations comprising 435 amino CC acids (SEQ ID NO. 22). The Hubbo-1-vFc fusion protein exhibits in vitro biological activity similar to or higher than that of fHUBPO on a molar CC variant comprises a hinge, CH2, and CH3 domains of human IgG Fc CC variant comprises a hinge, CH2, CH3 domains of human IgG Fc CC variant comprises a hinge, CH2, CH3 domains of human IgG Fc CC variant comprises a hinge, CH2, CH3 domains of human IgG Fc CC Variant comprises a hinge, CH2, CH3 domains of human IgG Selected from CC protein exhibits in vitro biological activity similar to or higher than CC Instance of the Hubbo on a molar basis. Preferred Method: Making a recombinant CC Lease of 10 kmizro; generating a CHO-derived cell line; growth medium IgG Fc variant, and the Hubbo-1-vFc fusion protein exhibits in vitro biological activity similar to or higher than CC in excess of 10 kmizro; generating a CHO-derived cell line; growth medium IgG Fc variant comprises: generating a CHO-derived cell line; growth medium CC purifying the expressed protein from (b), where the recombinant fusion CC data given. None given. Administration can be through subcutaneous or data given. None given. Administration can be through subcutaneous or intravenous route. No dosage given. The recombinant HuEPO-L-vPc fusion protein is useful for treating patients with chronic anemia due to renal diseases, cancer chemotherapy, rheumatoid arthritis, AZT treatment for HIV infection, or myelodysplastic syndrome. It is also useful in the treatment of renal failure. A fusion protein was assembled from several A recombinant HuEPO-L-vFc fusion protein comprises human erythropoietin (HuEPO), a peptide linker, and a human IgG Fc variant, is new. INDEPENDENT CLAIMS are also included for the following: a chinese hamster ovary (CHO)-derived cell line producing the HuEPO-L-vFc fusion protein in its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth million cells in a 24 hour its growth million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth medium in excess of 10 kmicroj per million cells in a 24 hour its growth million cells in a 24 hour DNA segments. To obtain the gene encoding the leader peptide and mature protein of human erythropoietin (EPO), cDNA library of human fetal live template in polymerase

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                             (SUNL/)
          Sun LK,
                                                                                                                  01-MAY-2003
                                                                                                                                                                       Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                                   Human HuEPO-L-vFcgamma4 fusion protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADM33855 standard; protein; 437
                                                                        17-AUG-2001;
                                                                                            17-AUG-2001; 2001US-00932812
                                                                                                                                       US2003082749-A1
                                                                                                                                                                                                                                     Peptide
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nt crystallisation region; Fc; chronic anaemia; renal disease;
chemotherapy; rheumatoid architits; AIDS;
ysplastic syndrome; (HuEPO)-L-vFcgamma4; human.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                                                     /note= "Wild-type Ser substituted by Pro" 226
                                                                                                                                                                                           /note= "IgG4 Fc"
219
                                                                                                                                                         /note= "Wild-type Leu
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.ta= "Linker"
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          CRY;
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Pred. No. 7.9e-86;
; Mismatches 0;
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recombinant human erythropolatin-L-vFc fusion proteins are useful for treating patients with chronic anaemia caused by renal failure, cancer chemotherapy, rheumatoid arthritis, azathioprine treatment for HIV infection, or myelodysplastic syndrome. The increased activity and prolonged presence of the human erythropoletin-L-vFc fusion protein in the serum, as compared to prior art, leads to lower dosages and less frequent injections. Less fluctuations of the drug in serum concentrations means improved safety and tolerability, and less frequent injections result in better patient compliance and quality of life. The present sequence represents the fusion protein HubpO-L-vFcgamma4.
                                                                                                                                                                                                                                                                                                             erythropoietin-L-vFc fusion protein cited above in its growth medium in excess of 10 microgramme per million cells in a 24-hour period. The HuBPC L-vFc fusion protein exhibits an enhanced in vitro biological activity of at least 2-fold relative to that of recombinant HuBPO on a molar basis. The flexible peptide linker containing about 20 or fewer amino acids is present between HuBPO and the human IgG Fc variant. The IgG Fc contains amino acid mutations to attenuate effector functions. The human IgG Fc variant comprises a hinge, CH2 and CH3 domains of human IgG2 with pro331Ser mutation, human IgG4 with Ser228Pro and Leu235Ala mutations, or human IgG1 with Leu234Val, Leu235Ala and Pro331Ser mutations. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to a recombinant human erythropoietin (HuEPO)-L-vFc fusion protein comprising HuEPO, a peptide linker, and a human immunoglobulin G Fc (fragment crystallisation region) variant. Also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New recombinant human erythropoietin-L-vFc fusion proteins, useful for treating patients with chronic anemia caused by renal failure, cancer chemotherapy, rheumatoid arthritis, or azathioprine treatment for HIV
Sequence 437
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            included is a carbohydrate-derived cell line producing the human
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AΑ;
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δ 밁 Š В Ś 문 Query Match Best Local S Matches 148 121 88 61 28 <u>س</u> Similarity PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA Conservative 100.0%; 0; Score 846; DB 7; Pred. No. 7.9e-86; Mismatches 0 Length 437; Indels 192 165 0 Gaps 147 120 87 9

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ADR48986
ID ADRA
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AC ADR4
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DE HuBH
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KW ADR1
KW ADR1
KW ADR1
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ADR4
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ADR5
KW ADR7
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ADR6
OS Synt
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PN US21
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                                      Synthetic
                                                                                           anaemia; renal
                                                                                                                                 HuEPO-L-vFc
                                                                                                                                                        02-DEC-2004
                                                                                                                                                                                                            ADR48986 standard; protein; 437
             US2004175824-A1
                                                  Homo sapiens
                                                                           AZT treatment;
                                                                                                      antianaemic;
                                                                                                                              fusion protein #1.
                                                                                          nephrotropic; human; HuEPO-L-vFc; erythropoietin;
al disease; cancer chemotherapy; rheumatoid arthri
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                                                                              VIΗ
                                                                              infection; myelodysplastic syndrome; renal failure
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EPO;

09-SEP-2004

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CC trs growth medium in excess of 10 kmcrojg per million cells in a 24 hour full period; and a method for making a recombinant fusion protein comprising CR Hubbo, a flaxible peptide linker containing 20 or fewer amino acids is present between Hubbo and the human 1gG FC variant, and comprises two or more CR unman 1gG FC variant comprises two or more CR unman 1gG FC variant comprises a hinge, CH2, and CH3 domains of human 1gG FC training 20 or fewer amino acids selected from glycine, serine, alanine, and thereonine. The CR unit herosises a hinge, CH2, and CH3 domains of human 1gG FC variant comprises a hinge, CH2, and CH3 domains of human 1gG FC training 1gG FC variant comprises a hinge, CH2, and CH3 domains of human 1gG FC 20). It further comprises a hinge, CH2, and CH3 domains of human 1gG FC 20). It further comprises a hinge, CH2, and CH3 domains of human 1gG FC 20). It further comprises a hinge, CH2, and CH3 domains of human 1gG FC 20). It further comprises a hinge, CH2, and CH3 domains of human 1gG FC 20). It further comprises a hinge, CH2, and CH3 domains of human 1gG FC 20). It further comprises a hinge, CH2, CH3 domains of human 1gG FC 20 biological activity similar to or higher than that of rHubbo on a molar comprise and protein in its growth medium in excess of 10 km cropy per million cells in 24 hour period. The human 1gG FC 20 the 1gG FC variant of human 1gG FC 20 the 1gG FC variant of human 1gG FC 20 that of rHubbo on a molar basis. Preferred Method: Making a recombinant CC periode exhibits in vitro biological activity similar to or higher than CC protein exhibits in vitro biological activity similar to or higher than CC protein exhibits in vitro biological activity similar to or higher than CC protein exhibits on the recembinant protein is expressed in its growth medium con exhibits in vitro biological activity similar to or higher than CC protein exhibits on the recembinant fusion protein medium con the protein from (b), where the recombinant fusion protein exhibits on the protein from (b), where t
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DNA segments. To obtain the gene encoding the leader peptide and mature protein of human erythropoletin (EPO), cDNA library of human fetal liver or kidney was used as the template in polymerase chain reaction (PCR). For the convenience of cloning, SEQ ID NO. 1 which incorporates a restriction enzyme cleavage site is used as the 5 oligonucleotide primer. The 3 primer (SEQ ID NO. 2) eliminates the EPO termination codon and incorporates a BamHI site. The resulting DNA fragments of approximately 600 bp were inserted into a holding vector such as DUC19 at the HindIII and BamHI sites to give the pEPO plasmid. The sequence of the human EPO gene was confirmed by DNA sequencing.
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                                                                                                                                                  05-JUN-2002;
10-JUL-2002;
24-JUL-2002;
09-AUG-2002;
13-AUG-2002;
                                                                                                                                                                                                                                                                                                                                                                                                               albumin fusion protein; albumin activity; human serum albumin; serum osmotic pressure; shelf-life; stability; antidiabetic; gene therapy; diabetes mellitus; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 437
        WPI; 2003-598517/56
                             Ballance DJ,
                                                                                                                                            18-SEP-2002;
                                                                                                                                                                                                     24-MAY-2002;
28-MAY-2002;
                                                                                                                                                                                                                          10-MAY-2002;
                                                                                                                                                                                                                                     08-APR-2002;
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27-MAR-2002;
                                                                                                                                                                                                                                                                             28-JAN-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human albumin therapeutic fusion protein SeqID1662
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADF16565 standard;
                                                                                                                                18-SEP-2002;
                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
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                                              HUMAN GENC
DELTA BIOT
PRINCIPIA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPRLI CDSRVLERYLLEAKEAENI TTGCAEHCSLNENI TVPDTKVNFYAWKRMEVGQQA
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2002US-0394625P.
2002US-0398008P.
2002US-0402131P.
2002US-0402708P.
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2002US-0370227P.
2002US-0378950P.
2002US-0382617P.
2002US-0383123P.
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                                                                                         2002US-0423623P
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                                                GENOME SCI INC
BIOTECHNOLOGY I
IPIA PHARM CORP
                             Turner AJ,
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                             Rosen CA,
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Pred.
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No. 7.9e-86;
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RESULT 105
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ADF16425
ADF164
AC ADF164

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Best Local :
21-DEC-2001;
24-JAN-2002;
28-JAN-2002;
26-FEB-2002;
26-FEB-2002;
27-MAR-2002;
10-AAY-2002;
24-MAY-2002;
28-MAY-2002;
28-MAY-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            albumin fusion protein; albumin activity; human serum albumi serum osmotic pressure; shelf-life; stability; antidiabetic; gene therapy; diabetes mellitus; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human albumin therapeutic fusion protein SeqID1522.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADF16425;
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2002US-0350358P.
2002US-0351360P.
2002US-0359370P.
2002US-0360000P.
2002US-0367500P.
2002US-037022P.
2002US-037022P.
2002US-0378250P.
2002US-0382617P.
2002US-0383123P.
2002US-0385708P.
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24-JUL-2002;
09-AUG-2002;
13-AUG-2002;
18-SEP-2002;
18-SEP-2002;
                                                                                                                                                                                                              or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is the amino acid sequence of a novel full-length human albumin therapeutic fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
                                                                                                                                                         Sequence 768
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23-OCT-2002;
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(DELZ) DELTA BIOTECHNOLOGY L
(PRIN-) PRINCIPIA PHARM CORP.
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165; Conserv
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2002US-0398008P.
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2002US-041235P.
2002US-0411356P.
2002US-0411426P.
2002US-0411426P.
2002US-0417611P.
2002US-047761P.
2002US-04720246P.
2002US-0423623P.
100.0%; Score 846; DB 7; ilarity 100.0%; Pred. No. 1.8e-85; Conservative 0; Mismatches 0.
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BIOTECHNOLOGY LTD
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768
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RESULT 106
ADF16564
ID ADF165
XX
AC ADF165
XX
DT 12-FEB
XX
DT 12-FEB
XX
Human
XX
BE Human
XX
KW albumi
KW serum
KW gene t
XX
OS Chimer
                                serum osmotic pressure; shelf-life; stability; antidiabetic; gene therapy; diabetes mellitus; human.
                                                                  albumin fusion protein; albumin activity; human serum albumin;
                                                                                                 Human albumin therapeutic fusion protein SeqID1661
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Chimeric

Homo sapiens

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Matches
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28-PEB-2002;
27-MAR-2002;
08-APR-2002;
10-MAY-2002;
24-MAY-2002;
28-MAY-2002;
05-JUN-2002;
10-JUL-2002;
24-JUL-2002;
24-JUL-2002;
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28-JAN-2002;
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                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           invention relates to a novel albumin fusion protein having albumin
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DELTA BIOT
PRINCIPIA
                                                                                                                                                                                                                          Similarity
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                                                           VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                          APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                      768
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                    APPRLICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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2002US-0370227P
2002US-0378950P
2002US-0382617P
2002US-0385708P
2002US-0385708P
2002US-039625P
2002US-03980008P
2002US-0402131P
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2002US-04114984P
2002US-0417611P
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2002US-0350358P.
2002US-0351360P.
2002US-0359370P.
2002US-0360000P.
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2002US-0423623P
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[PIA PHARM CORP.
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                                                                                                                                                                                                                  Score 846; DB 7;
Pred. No. 1.8e-85;
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                                                                                                                                                                                                     Mismatches
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δ B S 밁 8

or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is the amino acid sequence of a novel full-length human albumin therapeutic fusion protein.

Example

4.

ID NO 1523; 24pp; English.

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09-AUG-2002;
13-AUG-2002;
                                                                                                                                                                                                                                                         28-MAY-2002;
05-JUN-2002;
10-JUL-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                           albumin fusion protein; albumin activity; human serum albumin; serum osmotic pressure; shelf-life; stability; antidiabetic; gene therapy; diabetes mellitus; human.
                                                                                                                                                          (HUMA-)
(DELZ )
(PRIN-)
                                                                                                                                                                                                                                                                                       08-APR-2002;
10-MAY-2002;
                                                                                                              New albumin
                                                                                                                             WPI; 2003-598517/56.
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05-NOV-2002;
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18-SEP-2002;
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27-MAR-2002;
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28-JAN-2002;
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2002US-0370227P.
2002US-0378950P.
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2002US-0411426P.
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2002US-0402131P.
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BIOTECHNOLOGY LTD
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                                                                                                                                           Turner
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                                                                                                             composition
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RESULT 108
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ID ADF164
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XX ALbumi
XX Berum
XX Berum
XX Berum
XX Berum
XX ADF164
XX Chimex
OS Chimex
OS Chimex
OS Homo g
XX WO2003
XX 24-JUI
PF 23-DEC
PF 23-DEC
PF 28-FEI
PR 26-FEI
PR 26-FEI
PR 26-ADI

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Best Local Sim:
Matches 165;
                                                                                                                                                                                                                                                                                 21-DEC-2001;
24-JAN-2002;
28-JAN-2002;
26-FEB-2002;
26-FEB-2002;
27-MAR-2002;
17-MAY-2002;
24-MAY-2002;
24-JUN-2002;
10-JUN-2002;
10-JUN-2002;
10-JUN-2002;
11-MAY-2002;
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        Ballance
                                                          (HUMA-)
(DELZ )
(PRIN-)
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                                                       HUMAN GENOME SCI INC.
DELTA BIOTECHNOLOGY I
PRINCIPIA PHARM CORP.
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2002US-035358P
2002US-0353360P
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2002US-0367500P
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2002US-0382617P
2002US-0382617P
2002US-0383123P
2002US-0383123P
2002US-0394625P
2002US-0394625P
2002US-0402131P
2002US-0402131P
2002US-0411355P
2002US-0411426P
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2002US-041761P
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        Turner
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New albumin fusion protein, useful for preparing a composition for pretenting diabetes mellitus.

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XX

PT treating diabetes mellitus.

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Example 4; SEQ ID NO 1521; 24pp; English.

XX

CC This invention relates to a novel albumin fusion protein having albumin corrections as a carrier of endogenous and exogenous ligands. The fusion of functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may concluded sequence which encodes it may be useful for gene therapy. The albumin fusion protein for treating diabetes mellitus. The present sequence is the amino acid sequence of a novel full-length human albumin therapeutic fusion protein of the convention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly convention. Note: The sequence data for this patent did not form part of from WIPO at ftp.wipo.int/pub/publishedpct_sequences

Sequence 768 AA;

Query Match

Best Local Similarity 100.0%; Score 846; DB 7; Length 768;

Matches 165; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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                                                               VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                             APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                Conservative
                                                                                                                                                0,
                                                                                                                                                Mismatches
                                                                                                                                                0
                                                                                                                                                 Indels
 768
                        165
                                                                                                                                                0
                                                                                                                                                Gaps
                                                  723
                                                                         120
                                                                                                  663
                                                                                                                         60
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RESULT 109
ADP16563
ID ADP165
XX ADP
    21-DBC-2001;
24-JAN-2002;
28-JAN-2002;
26-FEB-2002;
28-FEB-2002;
27-MAR-2002;
08-APR-2002;
10-MAY-2002;
                                                                                                                                                                                                                                                                                                                                                                      23-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                24-JUL-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     albumin fusion protein; albumin activity; human serum albumin; serum osmotic pressure; shelf-life; stability; antidiabetic;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        n osmotic pressure; shelf-lit
therapy; diabetes mellitus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens
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2001US-0341811P.
2002US-03538P.
2002US-035336P.
2002US-0359370P.
2002US-0367500P.
2002US-0370227P.
2002US-0378950P.
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RESULT 110
ADF15091
ID ADF150
XX
AC ADF150
XX
T2-FEB
XX
DT 12-FEB
XX
KW albumi
KW serum
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Best Local
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28-MAY-2002;
05-JUN-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HUMA-)
(DELZ )
(PRIN-)
albumin fusion protein; albumin activity; human serum albumin; serum osmotic pressure; shelf-life; stability; antidiabetic;
                                          Human albumin therapeutic fusion protein SeqID387.
                                                                           12-FEB-2004
                                                                                                                                    ADF15091 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
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13-AUG-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 albumin fusion protein,
ating diabetes mellitus.
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DELTA
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                                                                                                                                                                                                                              PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                                                                                                                                                      VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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llarity 100.0%;
Conservative 0
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2002US-0385708P.
2002US-0394625P.
2002US-0394625P.
2002US-0402131P.
2002US-0402131P.
2002US-0411425P.
2002US-0411426P.
2002US-0411426P.
2002US-0414984P.
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2002US-0414984P.
2002US-0414984P.
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                                                                          (first entry)
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BIOTECHNOLOGY I
                                                                                                                                    protein;
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                                                                                                                                      769 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 useful
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Pred. No. 1.8e-85;
; Mismatches 0;
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중 음 중

VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS

120

APPRLICDSRYLERYLLEAKEAENITTGCAEHGSLNENITYPDTKVNFYAWKKMEVGOQA

Query Match Best Local Matches 16

165;

Conservative

0

Mismatches

<u>,</u>

0

60 79 Similarity

100.0%;

Score 846; DB 7; Pred. No. 1.8e-85;

Length

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or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is the amino acid sequence of a novel full-length human albumin therapeutic fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-AUG-2002;
13-AUG-2002;
18-SEP-2002;
Sequence 769 AA;
                                                                                                                                                                                                                                                                                                                                                        (HUMA-)
(DELZ )
(PRIN-)
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10-MAY-2002;
                                                                                                                                                                                                       This invention relates to
                                                                                                                                                                                                                                 Example
                                                                                                                                                                                                                                                           New albumin fusion protein, useful treating diabetes mellitus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10-JUL-2002;
24-JUL-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-JUN-2002;
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27-MAR-2002;
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26-FEB-2002;
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24-JAN-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-DEC-2002;
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DELTA BIOT
PRINCIPIA
                                                                                                                                                                                                                                4; SEQ ID NO 387; 24pp;
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2002US-0385708P.
2002US-0385708P.
2002US-0394625P.
2002US-0394625P.
2002US-0398008P.
2002US-0402131P.
2002US-0402131P.
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A BIOTECHNOLOGY LI
CIPIA PHARM CORP.
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2002US-0417611P
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2002US-0378950P.
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2002US-0367500P.
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2002US-0359370P.
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                                                                                                                                                                                                       a novel albumin fusion protein having albumin
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ADF15UT
ADF15U
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24-JAN-2002
28-JAN-2002
26-FEB-2002
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28-FEB-2002
27-MAR-2002
10-MAY-2002
24-MAY-2002
28-MAY-2002
21-UN-2002
05-JUN-2002
21-JUN-2002
21-JUN-2002
21-JUN-2002
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L5082
  This invention relates to a novel albumin fusion protein having albumin or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              albumin fusion protein; albumin activity; human serum albumin; serum osmotic pressure; shelf-life; stability; antidiabetic; gene therapy; diabetes mellitus; human.
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02-OCT-2002;
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18-SEP-2002;
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DELTA BIOTECHNOLOGY L
PRINCIPIA PHARM CORP.
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                                                                                                                                                                                                                                                                                     diabetes
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2002US-0382617P.
2002US-0383123P.
2002US-0385708P.
2002US-0394625P.
2002US-0398008P.
2002US-0402131P.
2002US-0402131P.
2002US-0411355P.
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2002US-0359370P.
2002US-0360000P.
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2002US-0420246P
2002US-0423623P
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                                                                                                                                                                                                                                                                                  mellitus.
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       (HUMA-)
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Query Match
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24-JUL-2002;
09-AUG-2002;
13-AUG-2002;
18-SEP-2002;
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10-MAY-2002;
24-MAY-2002;
28-MAY-2002;
05-JUN-2002;
                                                                                                                                                                                                                                                                                                 21-DEC-2001;
24-JAN-2002;
24-JAN-2002;
28-JAN-2002;
26-FEB-2002;
28-FEB-2002;
27-MAR-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is the amino acid sequence of a novel full-length human albumin therapeutic fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                               23-DEC-2002;
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gene therapy; diabetes mellitus; human.
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                                 ; 2002US-0417611P.
; 2002US-0420246P.
; 2002US-0423623P.
                                                                                                                      2002US-0382617P.
2002US-0385708P.
2002US-0395708P.
2002US-0394625P.
2002US-0396008P.
2002US-0402131P.
2002US-0402131P.
2002US-0402131P.
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2002US-0367500P.
2002US-0370227P.
2002US-0378950P.
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2002US-0414984P
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2002US-0359370P.
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GENOME
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Pred. No. 1.8e-85;
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RESULT 113
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Matches 165
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24-JAN-2002;
28-JAN-2002;
26-FEB-2002;
28-FEB-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New albumin fusion protein, treating diabetes mellitus.
                                                      21-DEC-2001;
                                                                                  23-DEC-2002;
                                                                                                              24-JUL-2003
                                                                                                                                        WO2003060071-A2
                                                                                                                                                                       Homo
                                                                                                                                                                                                                          albumin fusion protein; albumin activity; human serum albumin; serum osmotic pressure; shelf-life; stability; antidiabetic;
                                                                                                                                                                                                                                                                    Human albumin
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therapy; diabetes
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             ; 2001US-0341811P.
; 2002US-0350358P.
; 2002US-0351360P.
; 2002US-0359370P.
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                                                                                  2002WO-US040891.
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 2002US-0360000P
                                                                                                                                                                                                                                                                     therapeutic fusion
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Pred. No. 1.8e-85;
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RESULT 114 ADF15071

BXGXAXB

ADF15071;

ADF15071 standard;

protein;

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12-FEB-2004

(first entry)

Human albumin therapeutic fusion protein SeqID367

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24-JUL-2002;
09-AUG-2002;
                                                                                                                                                                                                                                                  This invention relates to a novel albumin fusion protein having albumin or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein for treating diabetes mellitus. The present sequence is the amino acid sequence of a novel full-length human albumin therapeutic fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New albumin fusion protein, useful for preparing treating diabetes mellitus.
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18-SEP-2002;
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28-MAY-2002;
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08-APR-2002;
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                                                                                                                                                                       Similarity
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DELTA BIOTECHNOLOGY I
PRINCIPIA PHARM CORP.
                                                                                                     Da,
                                                                    VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLLRALGAQKEAIS
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
               PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                   VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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2002US-0420246P.
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2002US-0411355P.
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2002US-0394625P.
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2002US-0402131P.
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2002US-0382617P.
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10-MAY-2002
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25-JUN-2002
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24-JUL-2002
11-JUL-2002
                                                                                                                                     This invention relates to a novel albumin fusion protein having albumin or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is the amino acid sequence of a novel full-length human albumin therapeutic fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
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23-OCT-
05-NOV-
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PR 10-MAN
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24-JUL-2002;
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13-AUG-2002;
18-SEP-2002;
18-SEP-2002;
02-OCT-2002;
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27-MAR-2002;
08-APR-2002;
10-MAY-2002;
10-MAY-2002;
24-MAY-2002;
28-MAY-2002;
05-JUN-2002;
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24-JAN-2002;
28-JAN-2002;
26-FEB-2002;
This invention relates to a novel albumin fusion protein having a or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fallowing the above the control of the control
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2002US-0420246P.

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2002US-036000P.
2002US-0367500P.
2002US-0370227P.
2002US-0370227P.
2002US-038950P.
2002US-0383123P.
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RESULT 117
ADF15113
ID ADF151
XX ADF151
XX ADF151
XX ADF151
XX ADF151
XX ADF165
XX ADF165
XX ALbumi
XX Albumi
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This invention relates to a novel albumin fusion protein having albumin or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is the amino acid sequence of a novel full-length human albumin therapeutic fusion protein of the printed specification, but was obtained in electronic format directly from urpo at free wice in Auch Auch Schained in electronic format directly
                                                                                                                                                                                                                                                                                                                                                                                    albumin fusion protein; albumin activity; human serum albumin; serum osmotic pressure; shelf-life; stability; antidiabetic; gene therapy; diabetes mellitus; human.
   21-DEC-2001; 2001US-0341811P.
24-JAN-2002; 2002US-0350358P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12-FEB-2004
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(DELZ )
(PRIN-)
                                                                                             23-DEC-2002; 2002WO-US040891
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                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                            Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human albumin therapeutic fusion protein SeqID409
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New albumin fusion protein, useful for preparing a composition for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WIPO at ftp.wipo.int/pub/publishedpct_sequences
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DELTA BIOTECHNOLOGY I
PRINCIPIA PHARM CORP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein;
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RESULT 118
ADF15108
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AC ADF151
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Best Local Sim.
Matches 165;
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10-JUL-2002;
24-JUL-2002;
09-AUG-2002;
13-AUG-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-JAN-2002;
26-FEB-2002;
28-FEB-2002;
28-FEB-2002;
27-MAR-2002;
08-APR-2002;
10-MAY-2002;
24-MAY-2002;
28-MAY-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-SEP-2002;
18-SEP-2002;
02-OCT-2002;
                                                                                                                                                                                                                                                                                                                                                                                   or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is the amino acid sequence of a novel full-length human albumin therapeutic fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
                ADF15108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New albumin fusion protein, useful for preparing a composition treating diabetes mellitus.
                                            ADF15108 standard; protein;
                                                                                                                                                                                                                                                                                                                                                           Sequence 951 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ballance DJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  invention relates to a novel albumin fusion protein having albumin
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                                                                                                                      121 PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                88
                                                                                                                                                                                                 61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                                                                                                                                          1 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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DELTA BIOTECHNOLOGY LTD.
PRINCIPIA PHARM CORP.
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                                                                                                                                                                                VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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2002US-035970P.
2002US-0360000P.
2002US-0367500P.
2002US-0378950P.
2002US-0382617P.
2002US-0385708P.
2002US-0385708P.
2002US-0385708P.
2002US-0385708P.
2002US-0417355P.
2002US-0417356P.
2002US-0411356P.
2002US-0411356P.
2002US-0411356P.
2002US-0411356P.
2002US-04114264P.
2002US-0414984P.
2002US-0423623P.
                                                                                                                                                                                                                                                                                                    Conservative
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                                                                                                                                                                                                                                                                                                                100.0%;
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Pred.
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. No. 2.5e-85;
smatches 0;
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26 FEB-2002;
28 FEB-2002;
27 MAR-2002;
27 MAR-2002;
10 APR-2002;
24 MAY-2002;
24 MAY-2002;
25 JUN-2002;
10 JUL-2002;
10 JUL-2002;
11 JUL-2002;
13 AUG-2002;
11 SEP-2002;
11 SEP-2002;
11 SEP-2002;
11 SEP-2002;
11 SEP-2002;
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24-JAN-2002;
28-JAN-2002;
This invention relates to a novel albumin fusion protein having albumin or biological activity. Human serum albumin is responsible for a significant proportion of the osmotic pressure of serum and also functions as a carrier of endogenous and exogenous ligands. The fusion of albumin to a therapeutic protein may increase shelf-life and stability of the therapeutic protein. The albumin fusion protein of the invention may allow production of compositions with antidiabetic activity whilst the nucleotide sequence which encodes it may be useful for gene therapy. The albumin fusion protein is useful for preparing a composition for treating diabetes mellitus. The present sequence is the amino acid sequence of a novel full-length human albumin therapeutic fusion protein of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                        New albumin fusion protein, useful for preparing a composition for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2003-598517/56.
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05-NOV-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-JUL-2003
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gene therapy; diabetes mellitus; human.
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DELTA BIOTECHNOLOGY I
PRINCIPIA PHARM CORP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                    diabetes mellitus.
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2002US-0420246P.
2002US-0423623P.
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2002US-0402708P.
2002US-0411355P.
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2002US-0414984P
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2002US-0385708P
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2002US-0378950P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Turner AJ,
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                                                                                                                                                                                                                                                                                                                                                                                 ID NO 404; 24pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rosen
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Query Match Best Local Similarity Matches 165;

100.0%;

Score 846; DB 7; Pred. No. 2.5e-85;

Length 951; Indels

Mismatches

0

0

Gaps

0

Conservative

Sequence

ΑA,

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RESULT 119
ADP151
AX ADP16
AX ADP151
AX
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24-JAN-2002;
28-JAN-2002;
26-PEB-2002;
26-PEB-2002;
27-MAR-2002;
27-MAR-2002;
10-MAY-2002;
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  This invention relates to a novel albumin fusion protein having albumin or biological activity. Human serum albumin is responsible for a
                                                               Example 4; SEQ ID NO 401; 24pp; English
                                                                                                                                 New albumin
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"Efficiency of signalling through cytokine
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"Site-specific glycosylation of human recombinant erythropoietin.
analysis of glycopeptides or peptides at each glycosylation site
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                       entities requires a license agreement (S or send an email to license@isb-sib.ch).
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D.J., Wendoloski
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InterPro; IPR001323; EFO TPO.
InterPro; IPR003013; EryThroptn.
Pfam; PF00758; EPO_TPO; 1.
PIRSF; PIRSF001951; EPO; 1.
PRINTS; PR00272; ERYTHROPTN.
PROSITE; PS00817; EPO_TPO; 1.
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PDB; 1EER; X-ray; A=28-193
GlycoSuiteDB; P01588; -.
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AF653356; AAC78791.1; -...
AF202308; AAF23132.1; -...
AF202306; AAF23132.1; JOINED.
AF202307; AAF23132.1; JOINED.
AF202310; AAF23133.1; -...
AF202310; AAF23133.1; -...
AF202311; AAF17572.1; -...
AF202314; AAF23134.1; -...
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AF202311; AAF17572.1; -
AF202314; AAF23134.1; J
AF202312; AAF23134.1; J
AF202312; AAF23134.1; J
AF202313; AAF23134.1; J
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e; Pharmaceutical; Polymorphism;
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Score 846; I
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p -> Q (in an hepatocellular carcinoma)
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E -> Q (in Ref. 1; CAA26095).
Q -> QQ (in Ref. 5).
G -> R (in Ref. 1; CAA26095).
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N-linked (GlcNAc.
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T CHAIN 28 192
T CHAIN 28 192
FT DISULFID 34 187
FT DISULFID 56 60
FT CARBOHYD 51 51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=87055236; PubMed=2877922; DOI=10.1016/0378-11 Lin F.-K., Lin C.-H., Lai P.-H., Browne J.K., Egrie J Fox G.M., Chen K.K., Castro M., Suggs S.; "Monkey erythropoletin gene: cloning, expression and
                                                                                                                                                                                                                                                               InterPro; IPR009079; 4 helix_cytokine.
InterPro; IPR001323; EPO TPO.
InterPro; IPR003013; Erythroptn.
Pfam; PF00758; EPO TPO; 1.
PIRSF; PIRSF001951; EPO; 1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
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01-AUG-1988 (Rel. 08,
25-OCT-2004 (Rel. 45,
  SEQUENCE
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by non-profit institutions as long as its content
ified and this statement is not removed. Usage by ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FUNCTION: Erythropoietin is the principal hormone invergulation of erythrocyte differentiation and the maphysiological level of circulating erythrocyte mass. SUBCELLULAR LOCATION: Secreted.

TISSUE SPECIFICITY: Produced by kidney or liver of acand by liver of fetal or neonatal mammals.
SIMILARITY: Belongs to the EPO / TPO family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human erythropoietin gene.";
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uggs S.;
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                                                                                                                                                                                               use by non-profit institutions as long as its content modified and this statement is not removed. Usage by arentities requires a license agreement (See http://www.isborsend an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=93372347; PubMed=8364201;
Wen D., Boissel J.P.R., Tracy T.E., G
Czelusniak J., Goodman M., Bunn H.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Macaca mulatta (Rhesus macaque)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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                                                                                                                                                                PIR; 184613;
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                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Kidney
                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cercopithecinae;
NCBI_TaxID=9544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Name=EPO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Erythropoietin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-OCT-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1997
01-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                        "Erythropoietin structure-function relationships: sequence homology among mammals.";
                                                                                                                                                                                                                                                                                FUNCTION: Erythropoietin is the principal ho regulation of erythrocyte differentiation an physiological level of circulating erythrocy SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Produced by kidney or liand by liver of fetal or neonatal mammals.
SIMILARITY: Belongs to the EPO / TPO family.
                                                                                                                                                                                                                                                    SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     151;
                                                                                                                                                      P01588; 1CN4.
                                                                                                                                                                           L10609;
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                                                                  maturation;
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                                                                                                                                                                I84613.
   6516481
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                                                                                                                                                                           AAA36842.1;
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                                                                                                                   4 helix cytokine.
EPO TPO.
Erythroptn.
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By similarity.
Erythropoletin.
By similarity.
By similarity.
N-linked (GlcNAc.
N-linked (GlcNAc.
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Pred. No. 9.
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Catarrhini; Cercopithecidae;
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                                                                 Hormone;
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similarity)
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Best Local S
Matches 149
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GO; GO:0005576; C:extracellular; IEA.
GO; GO:0005128; F:erythropoietin receptor binding; IEA.
GO; GO:0005179; F:hormone activity; IEA.
TorearPro; IPR009079; 4 helix_cytokine.
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01-JUN-2003
01-JUN-2003
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CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                        PRINTS; PR00272; ERYTHROPIN.
PROSITE; PS00817; EPO_TPO; 1.
SEQUENCE 192 AA; 20984 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR009079; 4 helix_cyt.
InterPro; IPR001323; EPO_TPO.
InterPro; IPR003011; Erythroptn.
Pfam; PP00758; EPO_TPO; 1.
PIRSF; PIRSF001951; EPO; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            region-specific antibodies";
Am. J. Vet. Res. 65:15-19(2004).
EMBL; AB100030; BAC55239-1; -.
HSSP; P01588; 1BUY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kijima-Suda I.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sato F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PubMed=14719696;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Equus caballus (Horse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Name=EPO;
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                                           121
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                             PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                    VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                               APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LPDAASAAPLRTITADTFCKLFRVYSNFLRGKLKLYTGEACRRGD
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PPDAASAAPLRTFAVDTLCKLFRIYSNFLRGKLKLYTGEACRRGD
                                                                                           VEVWQGLALLSEATLQGQALLANSSQPSETLRLHVDKAVSSLRSLTSLLRALGAQKEATS
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192
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152
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              89.8%;
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Last sequence update)
Last annotation updat
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                                                                                                                                                                                                                                                                              Score 723; DB 2;
Pred. No. 7.7e-60;
0; Mismatches 15
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O-linked (GalNAc. ..) (By similarity).
; 275560A26462BCD1 CRC64;
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Pred. No. 2.8
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EPO PERO F

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01-OCT-1996
25-OCT-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR001323; EPO TPO.
InterPro; IPR0013013; EPVETroptn.
Pfam; PP00758; EPO TPO; 1.
PIRSF; PIRSF001951; EPO; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; U00685; AAA18282.1; -.
EMBL; L10606; AAA30807.1; -.
PIR; I46083; I46083.
HSSP; P01588; 1BUY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Kidney;
Goodman R.E., Bell R.G.;
Submitted (NOV-1993) to t
                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                                                                        SIGNAL
                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00272; ERYTHROPTN. PROSITE; PS00817; EPO_TPO; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-93372347; PubMed-8364201;
Wen D., Boissel J.P.R., Tracy T.E., Gruninger R.H., Mul
Czelusniak J. Goodman M., Bunn H.F.;
"Erythropoietin structure-function relationships: high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 5-192 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Felis silvestris catus (Cat).
Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Erythropoietin precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P33708;
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                                                                                   138;
27
                                                                                                      Similarity
                        APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
  APPRLICDSRVLERYILGAREAENVTMGCAEGCSFSENITVPDTKVNFYTWKRMDVGQQA
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33
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                                                                                                                                                                                                                                                                                                                                                            maturation; Glycoprotein; Hormone;
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(Rel. 34, Last sequence up)
(Rel. 45, Last annotation
                                                                                   Conservative
                                                                                                                                                                      ΑA;
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                                                                                                      Score 706; DB 1
Pred. No. 3e-58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata;
; Fissipedia; Felidae;
                                                                                                                                                                      61C5EA0F5E937293
                                                                                   Mismatches
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                                                                                                                                                                                                                                                                                                                                                              Signal.
                                                                                                                        Length 192;
                                                                                                                                                                      CRC64;
                                                                                   Indels
                                                                                                                                                                                                           (Potential). (Potential). (Potential).
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                                                                                 Gaps
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                                                                                                                                                                                                                               EMBL; D10763; BAA01593.1; -.
EMBL; L10608; AAA4126.1; -.
PIR; S28148; S28148.
HSSP; P01588; 1CN4.
RGD; 2559; Epo.
InterPro; IPR009079; 4 helix_cytokine.
InterPro; IPR001323; EPO TPO.
InterPro; IPR003033; Erythroptn.
DISULFID
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequence homology among mammals.";

Blood 82:1507-1516(1993).

-I- FUNCTION: Erythropoietin is the principal hormone involved in regulation of erythrocyte differentiation and the maintenance physiological level of circulating erythrocyte mass.
-I- SUBCELLULAR LOCATION: Secreted.
-I- TISSUE SPECIFICITY: Produced by kidney or liver of adult mamma and by liver of fetal or neonatal mammals.
-I- SIMILARITY: Belongs to the EPO / TPO family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=Sprague-Dawley; TISSUE=Kidney;
MEDLINE=93372347; PubMed=8364201;
Men D., Boiseal J.R., Tracy T.E., Mulcahy L.S., Czelusniak J.,
                                                                   CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=Wistar; TISSUE=Kidney;
MEDLINE=93042015; PubMed=1420369; DOI=10.1016/0167-4781(92)90146-Q;
Nagao M., Suga H., Okano M., Masuda S., Narita H., Ikura K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10116;
                                                                                           Erythrocyte
SIGNAL
                                                                                                                                      PRINTS; PR00272; ERYTHROPTN. PROSITE; PS00817; EPO_TPO; 1
                                                                                                                                                                                          Pfam; PF00758; EPO TPO; 1.
PIRSF; PIRSF001951; EPO; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Goodman M., Bunn H.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 4-192 FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Nucleotide sequence of rat erythropoietin.";
Ejechim. Biophys. Acta 1171:99-102(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Erythropoietin precursor.
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01-APR-1993 (Rel. 25, Last sequence update)
25-CCT-2004 (Rel. 45, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P29676;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Erythropoietin structure-function relationships:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   147
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192
187
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; Glycoprotein; Hormone
By similarity.
Erythropoietin.
By similarity.
N-linked (GlcNAC
N-linked (GlcNAC
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TISSUE=Kidney;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           192
(GlcNAc.
                                                                                                                    Hormone;
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similarity)
similarity)
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01-FEB-1996
01-FEB-1996
25-OCT-2004
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RESULT 8
EPO_BOVIN
ID EPO_BOVIN
AC P48617;
DT 01-FEB-1996
DT 01-FEB-1996
DT 25-OCT-2004
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GOPWUS
ID OGFW
AC QOFW
AC QOF
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Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; AY572971; AAS77874.1; -.
R GG; GO:00055128; F:erythropoietin receptor binding; IEA.
R GO; GO:0005179; F:hormone activity; IEA.
R GO; GO:0005179; F:hormone activity; IEA.
R InterPro; IPR003013; EPO TPO.
R InterPro; IPR003013; EPO TPO.
R InterPro; IPR003013; ETYthroptn.
R FAINTS; PR00272; ERVTHROPTN.
R PRINTS; PR00272; ERVTHROPTN.
R PROSITE; PS00817; EPO TPO; 1.
SEQUENCE 206 AA; 22666 MW; IBEC64A02CE4F5B0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
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Best Local
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05-JUL-2004
05-JUL-2004
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Enytinoposata; (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Kidney;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9615;
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                                                                                                  STANDARD;
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Pred. No. 9e-58;
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RESULT 9
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SEQUENCE
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or send a
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InterPro; IPR001323; EPO_TPO.
InterPro; IPR0030113; Erythroptn.
Pfam; PF00758; EPO_TPO; 1.
PIRSF; PIRSF001951; EPO; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Suliman H.B., Majiwa P.A.O., Feldman B.F., Mertens B., Logan-Henfrey L.L.;
Cogan-Henfrey L.L.;
"Cloning of a cDNA encoding bovine erythropoietin and analysis transcription in selected tissues.";
                                                                                                                                                                                                                                                                                                                                                                                            Erythrocyte
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                  PIRSF; PIRSF001951; EPO; 1.
PRINTS; PR00272; ERYTHROPIN.
PROSITE; PS00817; EPO TPO; 1
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EMBL; U44762; AAA86653.1;
HSSP; P01588; 1CN4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
STRAIN=Boran; TISSUE-Kidney;
MEDLINE=96257233; PubMed=8666286; DOI=10.1016/0378-1119(95)00895-0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                  CHAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Erythropoietin precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  e 171:275-280(1996).

FUNCTION: Erythropoietin is the principal hormone involved regulation of erythrocyte differentiation and the maintenan physiological level of circulating erythrocyte mass.

SUBCELLULAR LOCATION: Secreted.

TISSUE SPECIFICITY: produced by kidney or liver of adult mand by liver of fetal or neonatal mammals.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    non-profit institutions as long d and this statement is not removed s requires a license agreement (See an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                         Similarity
                                                                                 LPDATPSAAPLRAFTVDALSKLFRIYSNFLRGKLTLYTGEACRRGD
                                                                                                                                                    VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
                                                                                                                                                                                                        APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                         PPDAA-SAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
                                                                                                                                     LEVWQGLALLSEAILRGQALLANASQPCEALRLHVDKAVSGLRSLTSLLRALGAQKEAIS
                                                                                                                                                                                       APARLI CDSRVLERYILEAREAENATMGCAEGCSFNENITVPDTKVNFYAWKRMEVQQQA
                                                                                                                                                                                                                                                                                                                       te maturation; Glycoprotein; Hormone; Si

1 25
Potential.
26 192
Erythropoietin.
27 By similarity.
28 By similarity.
29 N-linked (GlCNAc.
20 63 N-linked (GlCNAc.
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54
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108
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83.1%;
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Erythropoletin.
By similarity.
By similarity.
N-linked (GlCNAc. . .) (Pot
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B; Mismatches
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Pred. No. 5.7e-57;
               PRT;
               192
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EMBL; M12482; AAA37568.1; -.
EMBL; M12930; AAA37570.1; -.
EMBL; AM12933; AAX28825.1; -.
EMBL; Y11971; CAA72707.1; -.
PIK; A24902; A24902.
HSSP; P01588; ICN4.
MGD; MGI:95407; Epo.
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01-APR-1988
25-OCT-2004
                                                                                                                                                                                                                                                                                                                                                                                                   erythroleukemia IW32 cells results protein beta2 subunit gene and the Oncogene 15:1995-1999(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Comparative analysis of the gene-dense ACHE/TFR2 region on human chromosome 7q22 with the orthologous region on mouse chromosome 5."; Nucleic Acids Res. 29:1352-1365(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wilson M.D., Riemer C
Cheung T.L., Hardy D.I
Miller W., Koop B.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       McDonald J.D., Lin F.-K., Goldwasser E., "Cloning, sequencing, and evolutionary are erythropoietin gene.";
                                                                                                                                                                                                   entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                            the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 1-52 FROM N.A. STRAIN=ICFW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=21138439; PubMed=11239002; Wilson M.D., Riemer C., Martindale Cheung T.L., Hardy D.M., Schwartz Smiller w Years D.M., Schwartz Smiller w Years D.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=87039105; PubMed=3773894; Shoemaker C.B., Mitsock L.D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                "Abnormal erythropoietin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=98030528; PubMed=9365246;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                        FUNCTION: Erythropoletin is the principal hormone regulation of erythrocyte differentiation and the physiological level of circulating erythrocyte mas SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Produced by kidney or liver of and by liver of fetal or neonatal mammals.
SIMILARITY: Belongs to the EPO / TPO family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S., Duprez
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FROM N.A.
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Rodentia;
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., Gisselbrecht
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D.W., Schnupf P., Boright
S., Scherer S.W., Tsui L.-C
                                                                                                                                                                                                                                                                                                                                                                                                                   Epo gene.";
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Pfam; PF00758; EPO TPO; 1.
PIRSF; PIRSF001951; EPO; 1.
PRINTS; PR00272; ERYTHROPTN.
PROSITE; PS00817; EPO_TPO; 1

MGD; MGI:95407; Epo. InterPro; IPR009079; 4 helix cytokine. InterPro; IPR001323; EPO TPO. InterPro; IPR003013; EryEhroptn.

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EPO_SHEP
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This SWISS-PROT entry is copyright. It is produced through a collate between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for commentities requires a license agreement (See http://orsend.com/
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O1-FEB-1994 (Rel. 28, 0
O1-FEB-1994 (Rel. 28, 1
25-OCT-2004 (Rel. 45, 1
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SIGNAL
CHAIN
                                                                                                                                                                                                                                                                                                         Czelusniak J., Goodman M., Bunn H.F.; Erythropoietin structure-function relationships: sequence homology among mammals."; Blood 82:1507-1516(1993).
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Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=93372347;
Wen D., Boissel J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 4-194 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-93351736; PubMed-8349021; DOI=10.1016/0303-7207(93)90113-X; Fu P., Evans B., Lim G.B., Moritz K., Wintour M.E.; "The sheep erythropoietin gene: molecular cloning and effect of hemorrhage on plasma erythropoietin and renal/liver messenger RNA is adult sheep.";
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                                                                                                                                                                                  regulation of erythrocyte differentiation and the maintenance physiological level of circulating erythrocyte mass. SUBCELLULAR LOCATION: Secreted.

TISSUE SPECIFICITY: Produced by kidney or liver of adult mamma and by liver of fetal or neonatal mammals.
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SIMILARITY: Belongs to the EPO / TPO family.
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.P.R., Tracy T.E.,
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14; Mismatches
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.2e-56;
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                                      InterPro; IPR009079; 4 helix cyto
InterPro; IPR001323; EPO_TPO_
InterPro; IPR003133; EFVThroptn.
Pfam; PF00758; EPO_TPO; 1.
PIRSF; PIRSF001951; EPO; 1.
PRINTS; PR00272; ERVTHROPTN.
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Erythropoietin.
Oryctolagus cuniculus (Rabbit).
Oryctolagus cuniculus (Rabbit).
Oryctolagus cuniculus (Rabbit).
Olyctolagus cuniculus (Rabbit).
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HSSP; P01588; 1CN4.
GO; GO:0005576; C:extracellı
                                                                                                                                                                                                                                                               Vilalta A., Wu D., Margalith M., Hobart "Rabbit EPO gene and cDNA: expression of intramuscular injection of pDNA."; Biochem. Biophys. Res. Commun. 284:823-8
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PIRSF; PIRSF001951; EPO; 1.
PRINTS; PR00272; ERYTHROPIN.
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EMBL; L10610; AAA31518.1;
PIR; I46401; I46401.
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                                                                                                                                                                                                                                                                                                                                 MEDLINE=21290682; PubMed=11396976; DOI=10.1006/bbrc.2001.5028;
Vilalta A., Wu D., Margalith M., Hobart P.;
                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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                           PROSITE;
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                                                                                                                                                             GO:0005576; C:extracellular;
GO:0005128; F:erythropoietin
GO:0005179; F:hormone activit
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PR00272; ERYTHROPTN.
PR00271; EPO TPO; 1.
PR00817; EPO TPO; 1.
E 195 AA; 21025 MW;
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26,
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                                                                                                                                                                   activity;
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Erychropoietin.
By similarity.
By similarity.
By similarity.
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N-linked (GlcNAc.
N-linked (GlcNAc.
F -> L (in Ref. 2).
L -> P (in Ref. 2).
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Pred. No. 2.
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      1F1DC7F403A303EC CRC64;
                                                                                                                                                                                                                                                                     284:823-827 (2001)
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                                                                                                                                                                   receptor binding;
ty; IEA.
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                                                                                                                                                                                                                                                                                                           of rabbit EPO after
                                                                                                                                                                                                                                                                                                                                                                                                                                  Vertebrata; Euteleostomi; ae; Oryctolagus.
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nes 20;
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Length 195;

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InterPro; IPRO09079; 2 EPO TPO.
InterPro; IPRO01323; EPO TPO.
InterPro; IPRO03013; EPOTTOptn.
Pfam; PF00758; EPO TPO; 1.
PRINTS; PRO92772; ERVTHROPTN.
PROSITE; PS00817; EPO TPO; 1.
PROSITE; PS00817; EPO TPO; 1.
SEQUENCE 195 AA; 21053 MW; 0999DA7DE
  EPO PIG
P49157;
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GO; GO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vilalta A., Wu D., Margalith M., Hobart P.;
"Rabbit EPO gene and cDNA: expression of rabbit EPO intramuscular injection of pDNA.";
Biochem. Biophys. Res. Commun. 284:823-827(2001).
EMBL; AF290943; AAG36961.1; -.
PIR; JC7699; JC7699.
HSSP; P01588; JCN4.
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Q9GKA3;
Q1-MAR-2001 (TrEMBLrel. 16,
01-MAR-2001 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=21290682; PubMed=11396976; DOI=10.1006/bbrc.2001.5028; Vilalta A., Wu D., Margalith M., Hobart P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Oryctolagus cuniculus (Rabbit)
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GO:0005128; F:erythropoietin receptor
GO:0005179; F:hormone activity; IEA.
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Pred. No. 7.
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                         PRT;
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7.7e-56;
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01-FEB-1996
05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence homology among mammals.";

Blood 82:1507-1516(1993).

-I- FUNCTION: Erythropoietin is the principal hormone involved in regulation of erythrocyte differentiation and the maintenance physiological level of circulating erythrocyte mass.

-I- SUBCELLULAR LOCATION: Secreted.

-I- TISSUE SPECIFICITY: Produced by kidney or liver of adult mamma and by liver of fetal or neonatal mammals.

-I- SIMILARITY: Belongs to the EPO / TPO family.
                                                                                                                                                                                                                                                                                                                                                             EMBL; L10607; AAA31029.1; -.
PIR; 146578; 146578.
HSSP; P01588; LT04.
InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR00132; EPO TPO.
InterPro; IPR001313; Erythroptn.
Pfam; PF00758; EPO TPO; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for commodified and this statement is not removed.
                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                   SIGNAL
                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00817; EPO_TPO; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
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Czelusniak J., Goddman M., Bunn H.F.;
"Erythropoietin structure-function relationships: high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wen D., Boissel J.P.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9823;
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Mammalia; 1
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                                                                                                                                                                                                                                                                                                                 NON TER
                                                                                                                                                                                                                                                                                                                           Erythrocyte
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
143
                      121
                                              83
                                                                                                                                                al Similarity
137; Conser
                                                                       61
                                                                                                23
                                            APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
LPDASPSSATPLRTFAVDTLCKLFRNYSNFLRGKLTLYTGEACRRD
                                                                                                APPRLICDSRVLERYILEAKEGENATMGCAESCSFSENITVPDTKVNFYAWKRMEVQQQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eutheria;
                   PPDA--ASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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46
105
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(Rel. 33, Last sequence update)
(Rel. 44, Last annotation updat
                                                                                                                                                  Conservative
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190
185
168
168
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                                                                                                                                                           80.1%;
                                                                                                                                                                                                  20888
                                                                                                                                                                                                                                                                                                                           Glycoprotein; Hormone;
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By similarity.
By similarity.
                                                                                                                                                                                                            N-linked (GlcNAc...)
N-linked (GlcNAc...)
N-linked (GlcNAc...)
N-linked (GlcNAc...)
                                                                                                                                                Score 678; DB 1; I
Pred. No. 1.3e-55;
7; Mismatches 21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            update)
                                                                                                                                                                                                                                                                                                                             Signal.
                                                                                                                                                                       Length 190;
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Sus.
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"Hypoxic stress tolerance of the blind subterranean mole rat: trypoxic stress tolerance of the blind subterranean mole rat: Texpression of erythropoietin and hypoxia-inducible factor I alpha.";

"Froc. Natl. Acad. Sci. U.S.A. 101:9698-9703(2004).

"R EMBL; AJ715795; CAG29400.1; -..

"R GG; GO:0005176; C:extracellular; IEA.

"R GG; GO:0005179; F:hormone activity; IEA.

"R GG; GO:0005179; F:hormone activity; IEA.

"R InterPro; IPR003013; EFPO TPO."

"R InterPro; IPR003013; EFPO TPO."

"R InterPro; IPR003013; ETYthroptin.

"Pfam; PF00758; EPO TPO; 1.

"Pfam; PF00758; EPO TPO; 1.
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Best Local S
Matches 133
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Name=epo;
Spalax galili
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Signal.
SIGNAL
CHAIN
SEQUENCE
                                                                                                                                                                                                                   Q6H8T0;
                    Spalax judaei (Blind subterranean mole rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
                                                                                                                                        05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shams I., Avivi A., Nevo E.; "Hypoxic stress tolerance of the subterranean mole rat: Expression erythropoietin and hypoxia-inducible factor-la."; Nucleic Acids Res. 0:0-0(2004).
                                                                                               Erythropoietin Name=epo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00817; EPO_TPO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PubMed=15210955; DOI=10.1073/pnas.0403540101;
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Mammalia; Eutheria;
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Rodentia;
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Pred. No. 1.3e-55;
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Sciurognathi; Muridae; Spalacinae;
                                                                                                                                                                                                                                             PRT;
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                                               Vertebrata; Euteleostomi;
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                         Spalacinae;
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Shams I., Avivi A., Nevo E.;
"Hypoxic stress tolerance of the subterranean mole rat: Expression "Hypoxic stress tolerance of the subterranean mole rat: Expression erythropoietin and hypoxia-inducible factor-ia.";
Nucleic Acids Res. 0:0-0(2004).
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InterPro; IPR001323; EPO TPO.
InterPro; IPR003013; Erythroptn.
Pfam; PP00758; EPO TPO; 1.
PRINTS; PR00272; ERYTHROPTN.
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GO; GO:0005128; F:erythropoietin receptor binding;
GO; GO:0005179; F:hormone activity; IEA.
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                        completed: August 23,
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1.3e-55;
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Result
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Listing first 45 summaries
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Perfect score:
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   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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precorrin-6y c5,15	NADH2 dehydrogenas	PSE1 protein - yea	WD-repeat family p	VacB protein XF198	GCN5 protein - hum	hypothetical prote	probable transport	ribonucleoside-dip	thrombopoietin pre	RF2 protein - saim	ATP-dependent heli	rtS beta (AF305057	conserved hypothet	hypothetical prote	mandelate racemase

A; Gene A; Cros A; Map A; Inti C; Fund	A;Res R;Matt Plant A;Tit A;Refa A;Accc A;Accc A;Accc C;Com	A,Moll A,Res A,Exp A,Exp A,Vana R,Yana J. Bit A,Tit A,Tit A,Reff A,Reff A,Reff	A; MO16 A; Res A; Cros R; Lai J. Bi A; Tit A; Refs A; Accs	A;Mole A;Res A;Cros R;Lin Proc. A;Tit A;Ref	RESULT 1 ZUHU erythrop C;Specie C;Date: C;Access R;Jacobs R,Jatobs Nature 3 A;Title: A;Refere A;Access	ር ፋ ፋ ፋ ፋ ፋ 0 0 ጣ /3 /2 /2 /4 /3
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A;Gene: GDB:EPO A;Cross-references: GDB:119110; O A;Cross-references: GDB:119110; O A;Map position: 7q21.3-7q22.1 A;Introns: 5/1; 53/3; 82/3; 142/3 C;Function:	A; Residues: 28-29, X', 31-33, 'L', 35-50, R; Matsumoto, S.; Ikura, K.; Udda, M.; Plant Mol. Biol. 27, 1163-1172, 1995 A; Title: Characterization of a human carrier of the series of th	A; Molecule type: protein A; Residues: 28-86, '0', 87-193 < LAI>A; Residues: 28-86, 'o', 87-193 < LAI>A; Residues: 28-86, 'o', 87-193 < LAI>A; Axperimental source: urine A; Note: forms without the carboxyl B; Yanagawa, S.; Hirade, K.; Ohnota Biol. Chem. 259, 2707-2710, 198 A; Hitle: Isolation of human erythr A; Reference number: A22210; MUID:8 A; Accession: A22210	M11319 .; Wan 6-3121 racter 384; M	DNA PROT:P Lin, U.S.A. pressi pressi 744; M	RESULT 1 ZUHU ZUHU C;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Date: 27.Nov-1985 #sequence revisi C;Accession: A01855; A24744; A25384; R;Jacobs, K.; Shoemaker, C.; Rudersd Nature 313, 806-810, 1985 A;Title: Isolation and characterizat A;Reference number: A01855; MUID:851 A;Accession: A01855	401 476 717 263 1089 379 401
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A;Gene: GDB:EPO A;Cross-references: GDB:119110; OMIM:133170 A;Map position: 7q21.3-7q22.1 A;Introns: 5/1; 53/3; 82/3; 142/3 C;Function:	A; Residues: 28-29, X.,31-33, 'L',35-50,'X',52-53,'D',55,'G',57 <yans 'l',35-50,="" 'l',35-50,'x',52-53,'d',55,'g',57="" (erythropoietin)="" 1163-1172,="" 1995="" 27,="" 28-29,="" 28-33,'x',35-37="" <mts="" <yans="" a="" a;="" adult="" biol.="" by="" c:="" c;="" characterization="" comment:="" erythropoietin="" geneticas:="" glycoprotein="" human="" is="" kidney="" liver="" m="" mol.="" molecule="" muid:95284365;="" number:="" of="" or="" plant="" pmid:7766897="" produced="" protein="" r.="" recession:="" reference="" residues:="" s56178="" s56178;="" sasaki,="" sythropoiet<="" sythropoietin="" td="" title:="" type:="" x.,31-33,="" x.;=""><td>A;Molecule type: protein A;Residues: 28-86,'Q',87-193 <lai> A;Residues: 28-86,'Q',87-193 <lai> A;Residues: 28-86,'Q',87-193 <lai> A;Experimental source: urine A;Note: forms without the carboxyl-terminal residue and the four carboxyl-terminal A;Note: forms without the carboxyl-terminal residue and the four carboxyl-terminal A;Yanagawa, S.; Hirade, K.; Ohnota, H.; Sasaki, R.; Chiba, H.; Ueda, M.; Goto, M J. Biol. Chem. 259, 2707-2710, 1984 J. Biol. Chem. 259, 2707-2710, 1984 A;Title: Isolation of human erythropoietin with monoclonal antibodies. A;Reference number: A22210; MUID:84135751; PMID:6698989 A;Accession: A22210</lai></lai></lai></td><td>A; Molecule type: LNA A; Residues: 1-193 < clin> A; Cross-references: GB:M11319; NID:g182197; PIDN:AAA52400.1; PID:g182198 A; Cross-references: GB:M11319; NID:g182197; PIDN:AAA52400.1; PID:g182198 A; Cross-references: GB:M11319; NID:g182197; PIDN:AAA52400.1; PID:g182198 A; Title: Structural characterization of human erythropoietin. A; Title: Structural characterization of human erythropoietin. A; Reference number: A25384; MUID:86140080; PMID:3949763 A; Accession: A25384</td><td>A;Molecule type: mRNA; DNA A;Residues: 1-193 <jaz-a 1-193="" 1985="" 7580-7584,="" 82,="" <jaz-a="" a24744;="" a24744<="" a;accession:="" a;lin,="" a;reference="" a;residues:="" a;title:="" acad.="" and="" browne,="" c.h.;="" cloning="" erythropoietin="" expression="" f.k.;="" gb:x02157;="" gb:x02158="" human="" j.k.;="" lin,="" muid:86067948;="" natl.="" number:="" of="" pmid:3865178="" proc.="" r="" r;lin,="" s.;="" sci.="" smalling,="" suggs,="" td="" the="" u.s.a.="" uniprot:p01588;=""><td>RESULT 1 ZUHU ZUHU crythropoietin precursor [validated] - human C;Species: Homo sapiens (man) C;Species: 27.Nov-1985 #sequence revision 27-Nov-1985 #text_change 09-Jul-2004 C;Accession: A01855; A24744; A25384; A22210; S56178 R;Jacobs, K.; Shoemaker, C.; Rudersdorf, R.; Neill, S.D.; Kaufman, R.J.; Mu Nature 313, 806-810, 1985 A;Title: Isolation and characterization of genomic and cDNA clones of human A;Reference number: A01855; MUID:85137899; PMID:3838366</td><td>H83911 \$71789 F82613 B75361 S53978 H69478 AF3341 ALIGNMENTS</td></jaz-a></td></yans>	A;Molecule type: protein A;Residues: 28-86,'Q',87-193 <lai> A;Residues: 28-86,'Q',87-193 <lai> A;Residues: 28-86,'Q',87-193 <lai> A;Experimental source: urine A;Note: forms without the carboxyl-terminal residue and the four carboxyl-terminal A;Note: forms without the carboxyl-terminal residue and the four carboxyl-terminal A;Yanagawa, S.; Hirade, K.; Ohnota, H.; Sasaki, R.; Chiba, H.; Ueda, M.; Goto, M J. Biol. Chem. 259, 2707-2710, 1984 J. Biol. Chem. 259, 2707-2710, 1984 A;Title: Isolation of human erythropoietin with monoclonal antibodies. A;Reference number: A22210; MUID:84135751; PMID:6698989 A;Accession: A22210</lai></lai></lai>	A; Molecule type: LNA A; Residues: 1-193 < clin> A; Cross-references: GB:M11319; NID:g182197; PIDN:AAA52400.1; PID:g182198 A; Cross-references: GB:M11319; NID:g182197; PIDN:AAA52400.1; PID:g182198 A; Cross-references: GB:M11319; NID:g182197; PIDN:AAA52400.1; PID:g182198 A; Title: Structural characterization of human erythropoietin. A; Title: Structural characterization of human erythropoietin. A; Reference number: A25384; MUID:86140080; PMID:3949763 A; Accession: A25384	A;Molecule type: mRNA; DNA A;Residues: 1-193 <jaz-a 1-193="" 1985="" 7580-7584,="" 82,="" <jaz-a="" a24744;="" a24744<="" a;accession:="" a;lin,="" a;reference="" a;residues:="" a;title:="" acad.="" and="" browne,="" c.h.;="" cloning="" erythropoietin="" expression="" f.k.;="" gb:x02157;="" gb:x02158="" human="" j.k.;="" lin,="" muid:86067948;="" natl.="" number:="" of="" pmid:3865178="" proc.="" r="" r;lin,="" s.;="" sci.="" smalling,="" suggs,="" td="" the="" u.s.a.="" uniprot:p01588;=""><td>RESULT 1 ZUHU ZUHU crythropoietin precursor [validated] - human C;Species: Homo sapiens (man) C;Species: 27.Nov-1985 #sequence revision 27-Nov-1985 #text_change 09-Jul-2004 C;Accession: A01855; A24744; A25384; A22210; S56178 R;Jacobs, K.; Shoemaker, C.; Rudersdorf, R.; Neill, S.D.; Kaufman, R.J.; Mu Nature 313, 806-810, 1985 A;Title: Isolation and characterization of genomic and cDNA clones of human A;Reference number: A01855; MUID:85137899; PMID:3838366</td><td>H83911 \$71789 F82613 B75361 S53978 H69478 AF3341 ALIGNMENTS</td></jaz-a>	RESULT 1 ZUHU ZUHU crythropoietin precursor [validated] - human C;Species: Homo sapiens (man) C;Species: 27.Nov-1985 #sequence revision 27-Nov-1985 #text_change 09-Jul-2004 C;Accession: A01855; A24744; A25384; A22210; S56178 R;Jacobs, K.; Shoemaker, C.; Rudersdorf, R.; Neill, S.D.; Kaufman, R.J.; Mu Nature 313, 806-810, 1985 A;Title: Isolation and characterization of genomic and cDNA clones of human A;Reference number: A01855; MUID:85137899; PMID:3838366	H83911 \$71789 F82613 B75361 S53978 H69478 AF3341 ALIGNMENTS
	57 <yan> Dietin) produced in cultured to adult mammals and by liver of</yan>	four carboxyl-terminal residu H.; Ueda, M.; Goto, M. antibodies.	; PID:g182198 er, E.	R.; Bgrie, J.C.; Chen, K.K.; I 1 gene.	ange 09-Jul-2004 aufman, R.J.; Mufson, A.; Seek clones of human erythropoiet.	hypothetical prote GCN5 protein - hum VacB protein XF198 WD-repeat family p PSB1 protein - yea NADH2 dehydrogenas precorrin-6y c5,15

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A;Cross-references: UNIPROT:P07865; GB:M18189; GB:M15819; GB:M15819; GB:M18188; NID:g342
A;Experimental source: kidney
C;Comment: This protein is the principal hormone involved in the regulation of erythrocy
C;Comment: Erythropoietin is produced by kidney or liver of adult mammals and by liver of
A;Description: the primary inducer of erythrocyte formation
C;Superfamily: erythropoietin
C;Keywords: erythropoietin
C;Keywords:
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R;Lin, F.K.; Lin, C.H.; Lai, P.H.; Browne, J.K.; Egr
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A;Title: Monkey erythropoietin gene: cloning, expression and comparison with the
   erythropoietin
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precursor
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   rhesus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 764.5; DB 1; Pred. No. 1.1e-65;
macaque
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Pred. No. 1.7e-73;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
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C;Species: Felis silvestris catus (domesti C;Date: 16-Aug-1996 #sequence_revision 15-C;Accession: I46083 R;Wen, D.; Boissel, J.
Blood 82, 1507-1516. 1000
                                                                                                                                                                                                                                                                                                 A;Molecule type: mRNA
A;Residues: 1-188 «WEN>
A;Residues: 1-188 (WEN>
A;Cross-references: UNIPROT;P33708; GB:L10606; NID:g163820; PIDN:AAA30807.1; PID:g163821
C;comment: Erythropoietin is produced by kidney or liver of adult mammals and by liver of C;Function:
A;Description: the primary inducer of erythrocyte formation
C;Superfamily: erythropoietin
C;Superfamily: erythropoietin
C;Keywords: erythropoiesis; glycoprotein; hormone; kidney; liver
F;1-22/Domain: signal sequence (fragment) #status predicted <SIG>
F:1-27-180/Domain: signal sequence (fragment) #status predicted <MATO
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C;Keywords: erythropoiesis; glycoprotein; hormone; kidney; liver
E;1-27/Domain: signal sequence #status predicted <SIG>
F;28-192/Product: erythropoietin #status predicted <MAT>
F;28-192/Product: erythropoietin #status predicted
E;34-187,56-60/Disulfide bonds: #status predicted
F;31-187,56-60/Disulfide bonds: #status predicted
F;51,65,110/Binding site: carbohydrate (Agn) (covalent) #status
                                                                                                                                                                                                               F;23-188/Product: erythropoietin #status predicted F;29-183;51-55/Disulfide bonds: #status predicted F;46,60,105/Binding site: carbohydrate (Asn) (covalent);148/Binding site: carbohydrate (Ser) (covalent)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Title: Erythropoietin structure-func
A;Reference number: I46083; MUID:93372
A;Accession: I46083
A;Status: translated from GB/EMBL/DDBJ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Blood 82, 1507-1516, 1993
A;Title: Erythropoietin structure-function relationships:
A:Reference number: I46083; MUID:93372347; PMID:8364201
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A; Residues: 1-192 < RES>
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Matches
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Accession: I84613
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                                                                                                                                                       Query Match
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32, 1507-1516, 1993
                                                                                                                                 Local
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                                                 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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  APPRLICDSRVLERYILEAREAENVTMGCAEGCSFSENITVPDTKVNFYTWKRMDVGQQA
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083; MUID:93372347;
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                                                                                                                               84.3%;
                                                                                                Score 713; DB
Pred. No. 8.8e
9; Mismatches
                                                                                                                                                                                                                                                                                         #status predicted <MAT>
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Pred. No. 3.2
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                                                                                                      2 713; LL
No. 8.8e-61;
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                                                                                                                                                                                                               (covalent) #status predicted
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PMID:8364201
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C;Superfamily: erythropoietin
C;Keywords: erythropoiesis; glycoprotein; hormone; kidney; liver
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-192/Product: erythropoietin #status predicted <MAT>
F;33-187,55-165/Disulfide bonds: #status predicted
F;50,64,109/Binding site: carbohydrate (Asn) (covalent) #status
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A;Cross-references: GB:L10608; NID:g204060; PIDN:AAA41126.1
C;Comment: Erythropoietin is produced by kidney or liver of C;Function:
A;Description: the primary inducer of erythrocyte formation
A;Description: the primary inducer of erythrocyte formation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Nagao, M.; Suga, H.; Okano, M.; Masuda, S.; Narita, H
Biochim. Biophys. Acta 1171, 99-102, 1992
A;Title: Nucleotide sequence of rat erythropoietin.
A;Reference number: S28148; MUID:93042015; PMID:1420369
A;Accession: S28148
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                                                                                                             C;Species: Ovis orientalis aries, Ovis an C;Date: 16-Aug-1996 #sequence revision 15 C;Accession: I46401; I47077 R;Fu, P: Evans, B: Lim, G.B.; Moritz, K Mol. Cell. Endocrinol. 93, 107-116, 1993
                                                                                                                                                                                                                    erythropoietin precursor - sheep C; Species: Ovis orientalis arian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Title: Erythropoietin structure-function A; Reference number: I46083; MUID: 93372347;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Rattus norvegicus (Norway rat)
C;Date: 22-Nov-1993 #sequence_revision 15
C;Accession: S28148; I62743
                    A;Title: The sheep erythropoietin gene: mol
A;Reference number: I46401; MUID:93351736;
A;Accession: I46401
A;Status: translated from GB/EMBL/DDBJ
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A; Molecule type:
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Best Local 9
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  mRNA
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82.4%; Pred. No. 1.3e-59;
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15-Nov-1996 #text_change 09-Jul-2004
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                                                                                           molecular cloning
                                                                                                                                        K.; Wintour, E.M.
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                                                                      PMID:8349021
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A;Description: the primary inducer of erythrocyte formation C;Superfamily: erythropoietin C;Keywords: erythropoietin; hormone; kidney; F;1-2e/Domain: signal sequence #status predicted <SIG>F;1-2e/Domain: signal sequence #status predicted <MAT>F;27-192/Product: erythropoietin #status predicted F;33-187;55-165/Disulfide bonds: #status predicted F;33-187;55-165/Disulfide bonds: #status predicted F;30,64,109/Binding site: carbohydrate (Asn) (covalent) #st
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                                                                                                                                                                                                                                                A; Molecule type: DNA
A; Residues: 1-67, 'p', 69-192 < MCD>
A; Residues: 1-67, 'p', 69-192 < MCD>
A; Cross-references: GB:M12930; NID:g193086; PIDN:AAA37570.1; PID:g387152
C; Comment: Erythropoietin is produced by kidney or liver of adult mammala
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: UNIPROT:P07321
A;Note: the authors translated the codon TTA for residue
R;McDonald, J.D., Lin, F.K.; Goldwasser, E.

Mol. Cell. Biol. 6, 842-848, 1986
A;Title: Cloning, sequencing, and evolutionary analysis
A;Reference number: A24901; MUID:87039104; PMID:3022133
A;Accession: A24901
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A; Residues: 4-15, L', 17-107, 'P', 109-194 <WEN>
A; Residues: 4-15, L', 17-107, 'P', 109-194 <WEN>
A; Cross-references: GB:L10610; NID:g165876; PIDN:AAA31518.1; PID:g165877
C; Comment: Erythropoietin is produced by kidney or liver of adult mammall C; Function:
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A;Title: Erythropoietin structure-function relationships: High degree of sequen
                                                                                                                                                                                                A;Introns: 5/1; 52/3; 81/3; 141/3 C;Function:
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R;Sheemaker, C.B.; Mitsock, L.D.
Mol. Cell. Biol. 6, 849-858, 1986
A;Title: Murine erythropoietin gene: cloning, expression, A;Reference number: A24902; MUID:87039105; PMID:3773894
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Pred. No. 3.9e
9; Mismatches
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(covalent) #status predicted

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C;Species: Oryctolage
C;Date: 30-Sep-2001;
C;Accession: JC7699
R;Vilalta, A.; Wu, D
A; Molecule type: mRNA
A; Residues: 1-190 <WEN>
A; Cross-references: UNII
C; Superfamily: erythropo
                                                                                                   erythropoietin - pig (fragment)
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_c
C;Accession: I46578
R;Wen, D.; Boissel, J.
Blood 82 1507-1516, 1993
A;Fitle: Erythropoietin structure-function relationships:
A;Reference number: I46083; MUID:93372347; PMID:8364201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Gene: epo
C;Superfamily: erythropoletin
C;Keywords: glycoprotein; kidney
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Vilalta, A.; Wu, D.; Margalith, M.; Hobart, P. Biochem. Biophys. Res. Commun. 284, 823-827, 2001
A;Title: Rabbit EPO gene and cDNA: Expression of rabbit EPO after intramuscular A;Reference number: JC7699; MUID:21290682; PMID:11396976
A;Contents: Kidney
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
JC7699
                                                           A;Accession: 146578
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                RESULT
I46578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Molecule type: DNA
A;Residues: 1-195 <VIL>
A;Cross-references: GB:AF290943
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;Species: Oryctolagus cuniculus (domestic rabbit)
;Date: 30-Sep_2001 #sequence_revision 30-Sep-2001
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        PPDAA-SAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
        165

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                                                                                                                                                                                                  PPEAASSAAPLRTVAADTLCKLFRIYSNFLRGKLKLYTGEACRRGD
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   erythropoietin
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                  UNIPROT: P49157;
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81.3%; Pred. No. 1.2e-57;
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Pred. No. 1e-57;
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                  GB:L10607; NID:g164445;
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                  PIDN:AAA31029.1; PID:g164446
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submitted to the EMBL Data Library, May A;Reference number: H01637 A;Accession: G02729
                                                                                                                                                                                                                                C;Species: Homo sapiens (man)
C;Date: 21-Dec-1996 #sequence_revision 06-Jun-1997 #text_change 05-Nov-1999
C;Accession: G02729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary; translated A;Molecule type: mRNA A;Residues: 1-175 <WEN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Wen, D.; Boissel, J.

Blood 82, 1507-1516, 1993
A;Title: Erythropoietin structure-function relationships: High
A;Reference number: I46083; MUID:93372347; PMID:8364201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       erythropoietin - dog (fragment)
c;Species: Canis lupus familiaris (dog)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 09-Jul-2004
C;Accession: I46199
R;Wen, D.; Boissel, J.
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146199
                                                                               A; Cross-references: C; Genetics:
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                                                                                                                  A; Residues: 1-353 < IMX >
                                                                                                                                A; Molecule type: mRNA
                                                                                                                                                A; Status: preliminary; translated
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                                                                                                 EMBL:U59493; NID:g1401245;
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81.0%;
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               10.6%; Score
26.3%; Pred.
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Pred. No. 1.2e-53;
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Pred. No. 2e-57;
                                                                                                                                                   from GB/EMBL/DDBJ
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R; Bartley, T.D.; Bogenberger Cell 77, 1117-1124, 1994
A; Title: Identification and A; Reference number: A54463; A; Accession: I38672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEBS Lett. 353, 57-61, 1994

A;Title: Molecular cloning and chromosomal localization A;Reference number: S48740; MUID:95010765; PMID:7926023 A;Accession: S48740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D.V.; Eaton, D.L.
Nature 369, 533-538, 1994
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  A;Cross-references: GB:S76771; NID:g914225; PIDN:AAB33390.1; C;Genetics: A;Gene: GDB:THPO; MGDF
                                                                                                                                                              A;Title: Genomic structure, A;Reference number: I52610; A;Accession: I52610
                                                                                                                                                                                                                                            R;Gurney, A.L.; Kuang, W.J.; Xie, M.H.; Blood 85, 981-988, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: GB:D32046; NID:g577319; PIDN:BAA06807.1; R;Bartley, T.D ; Bogenberger, J.; Hunt, P.; Li, Y.S.; Lu, H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-353 < SOH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: GB:L33410; NID:g506826; PIDN:AAA59857.1; PID:g506827
R;Sohma, Y.; Akahori, H.; Seki, N.; Hori, T.; Ogami, K.; Kato, T.; Shimada,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Title: Stimulation of megakaryocytopoiesis and thrombopoiesis A;Reference number: S45331; MUID:94261202; PMID:8202154 A;Accession: S45331
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
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                                                                                A; Residues: 1-353 < RE4>
                                                                                                         A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
A; Residues: 1-112, 'E', 114-353 < RE3>
                                                                                                                                                                                                                                                                                                                                                                            A; Status: preliminary
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A;Residues: 1-353 <SAU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: translated from GB/EMBL/DDBJ
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                                                                                                                                                                                                                                                                   Cross-references: EMBL:U11025; NID:g511223; PIDN:AAA50553.1; Gurney, A.L.; Kuang, W.J.; Xie, M.H.; Malloy, B.E.; Eaton, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 de Sauvage, r..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;Cross-references: GB:L36052; NID:g533216; PIDN:AAC37566.1; ;de Sauvage, F.J.; Hass, P.E.; Spencer, S.D.; Malloy, B.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;Cross-references: UNIPROT:P40225; GB:L36051;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ISPPDAASAAPLRTITADTFRKLFRVYSNFLRGKLK 154
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                                                                                                                                                                                     chromosomal localization, MUID:95152076; PMID:78493
                                                                                                                                                                                                                                                                                                                                                                                                                               cloning of a megakaryocyte growth MUID:94291201; PMID:8020099
                                                                                                                                     from GB/EMBL/DDBJ
                                                                                                                                                                    PMID:7849319
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                                                                                                                                                                                                                conserved alternative splice
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.S.; Martin,
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                                                    PID:g914226
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                                                                                                                                                                                                                                                                   PID:g558078
.L.; de Sauv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human thrombopoietin
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                                                                                                                          Solute binding receptor protein (imported) - Salmonella enterica subsp. C;Species: Salmonella enterica subsp. enterica serovar Typhi A;Note: this species has also been called Salmonella typhi C;Date: 09-Nov-2001 #sequence_revision 09-Nov-2001 #text_change 18-Nov-2C;Accession: AE0959
                                                                              R; Parkhill, J.; Dougan, G.; James, th, T.; Connerton, P.; Cronin, A.;
th, T.; Connerton, P.; Cronin, S.; Moule, S.; O'Gaora, P. Nature 413, 848-852, 2001
A;Authors: Parry, C.; Quail, M.
                                                                                                                                                                                                                                                                     AE0959
                                                                                                                                                                                                                                                                                            RESULT 14
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A;Gene: nrdF
C;Superfamil
C;Keywords:
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C;Date: 02-N
C;Accession:
R;Parkhill,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
AB0323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Parkhill, J.; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, M.B deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, G.; il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barrell, Nature 413, 523-527, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Map position: 3q26.3-3q27
A;Introns: 5/1; 47/3; 76/3; 132/3
C;Keywords: alternative splicing;
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C;Date: 02-Nov-2001 #sequence_revision
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                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-323 < KUR>
                                                                                                                                                                                                                                                                                                                                                                                                                      A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Accession: AB0323
                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Title: Genome sequence of Yersinia pestis, the causative A; Reference number: AB0001; MUID:21470413; PMID:11586360
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                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                         Superfamily: ribonucleoside-diphosphate reductase
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                                                                                                                                                                                                                                     Similarity
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                                                                  LTIRVFTGLTLLDTIONTLGAPALIKDAITPHEEAIFSNISFMEAVHARSYSSIFSTL--
                                                                                                                                                                               NITVPDTKVNFYAWKRMEVGQQAVEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QDILGAVTLILEGVMAARGQLGPTCLSSLLGQLSGQVRLLLGALQSL-----
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                                  GKLKLYTGEACRTGD 165
                                                                                                       ---KAVSGLRSLTTLLRALGAQ---KEAISPPDAASAAPLRTITADTFRKLFRVYSNFLR 150
                                                                                                                                             NVVKPITRISAINWNKIE-DDKDLEVWN--RLTSNFWLPEKVPLSNDIPSWATLTPHEQQ 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APP--ACDLRVLSKLLRDSHVLHSRLSQCPEVHPLPTPVLLPAVDFSLGEWKTQMEETKA
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CLTSD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -RTTAHKDPNAIFLSFQHLLRGKVR 161
121
                                                                                                                                                                                                                   20;
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                                                                                                                                                                                                                                   Score 88;
Pred. No.
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Pred. No.
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                                                                                                                                                                                                                   Mismatches
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0.99;
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M.; Rutherford,

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Simmonds, M.; Skelton,

<u>ر</u> : .

Stevens,

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K.D.; 'Davis,

Thomson, N.R.; Pickard, P.; Davies, R.M.; Dowd,

D.; Wain, l, L.; White 18-Nov-2002

enterica

serovar

White,

v...

Churcher,

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megakaryocyte growth and development factor, long form - human N;Alternate names: MPL ligand, long form C;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 07-May-1999 C;Paccession: A55530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Chang, M.; McNinch, J.; Basu, R.; Shutter, J.; Hsu, R.; Perkins, C.; Mar, V.; Suggs, 9. Biol. Chem. 270, 511-514, 1995
A;Title: Cloning and characterization of the human megakoryocyte growth and development A;Reference number: A55530; MUID:95122483; PMID:7822271
A;Accession: A55530
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status: preliminary; not compared with conceptual translation A;Molecule type: DNA A;Residues: 1-286 <CHA>
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Search completed: August 23, 2005, Job time: 41 secs
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C; Keywords: alternative splicing; cytokine
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                                                                                            133 -LPPQG-----RTTAHKDPNAIFLSFQHLLRGK 159
                                                                                                                                            119 ISPPDAASAAPLRTITADTFRKLFRVYSNFLRGK 152
                                                                                                                                                                                            82 QDILGAVTLLLEGVMAARGQLGPTCLSSLLGQLSGQVRLLLGALQSL--
                                                                                                                                                                                                                                         61 VEVWQGLALLSEAVL--RGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEA 118
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US-09-604-938-2
US-09-604-938-3
US-09-552-2658-4
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US-09-813-775C-2
US-09-813-775C-26
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Matches 165; Conserv
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Sequence 4	Sequence 3	Sequence 2	Sequence 3	Sequence 2	Sequence 4	Sequence 3	Sequence 4	Sequence 3	Sequence 2	Sequence 2	Sequence 2	Sequence 2	Sequence 4	Sequence 3	Sequence 4	Sequence 3	Sequence 3
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ALIGNMENTS

US/09604871

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APPLICANT: Burg, Josef
APPLICANT: Hilger, Bernd
APPLICANT: Josel, Hans-Peter
TITLE OF INVENTION: ERYTHROPOIETIN CONJUGATES
FILE REFERENCE: 1098 nonprovisional
CURRENT FILING DATE: 2000-06-28
PRIOR APPLICATION NUMBER: 60/151,454
PRIOR FILING DATE: 1999-08-30
PRIOR FILING DATE: 1999-08-05
PRIOR APPLICATION NUMBER: 60/147,452
PRIOR FILING DATE: 1999-08-05
PRIOR PRICING DATE: 1999-07-02
NUMBER OF SEQ ID NOS: 3
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 1
LENGTH: 165
RESULT 2
US-09-604-938-1
US-09-604-938-1
; Sequence 1, Application US/09604938
; Patent No. 6583272
; GENERAL INFORMATION:
; APPLICANT: Bailon, Pascal
; TITLE OF INVENTION: ERYTHROPOIETII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TYPE: PRT ; ORGANISM: Homo sapiens US-09-604-871-1
                                                                                                                                                                                                                                121 PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
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    ERYTHROPOIETIN CONJUGATES
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Pred. No. 1.4e-99;
); Mismatches 0;
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-604-938-1
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CURRENT APPLICATION NUMBER: US/09/604,938
CURRENT FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: 60/166,151
PRIOR FILING DATE: 1999-11-17
PRIOR APPLICATION NUMBER: 60/151,548
PRIOR APPLICATION NUMBER: 60/150,225
PRIOR FILING DATE: 1999-08-13
PRIOR APPLICATION NUMBER: 60/150,225
PRIOR FILING DATE: 1999-08-23
PRIOR FILING DATE: 1999-08-23
PRIOR APPLICATION NUMBER: 60/142,254
PRIOR FILING DATE: 1999-07-02
NUMBER OF SEQ ID NOS: 3
SOFTWARE: Patentin Ver: 2.1
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Matches
                                                                                                                                                                                                                                                                                                       SEQ ID NO 1
LENGTH: 165
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Best Local :
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CURRENT ERPLICATION NUMBER: US/09/830,967
CURRENT FILING DATE: 1999-11-08
PRIOR APPLICATION NUMBER: AR 99-01-00679
PRIOR FILING DATE: 1999-02-23
PRIOR FILING DATE: 1999-02-23
PRIOR APPLICATION NUMBER: AR 98-01-05609
PRIOR APPLICATION SUMBER: AR 98-01-05609
PRIOR FILING DATE: 1998-11-06
NUMBER: OF SEQ ID NOS: 5
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                                                                                                                                                                                 Local Similarity
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Criscuolo, Marcelo
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Pred. No. 1.4e-99;
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US-08-318-193-70
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Patent No.
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                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 07/224
ATTOREY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 1874
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)836-9300
TELEPHONE: (703)836-9300
                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS
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CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: US
FILING DATE:
FILING DATE:
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TITLE OF INVENTION:
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TITLE OF INVENTION:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM CC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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                 PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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OF BIOACTIVE HUMAN GRANULCCYME MACROPHAGE COLONY
STIMULATING FACTOR (GM.CSF) AND OTHER HETEROLOGOUS
PROTEINS FROM STREPTOMYCES
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Pred. No. 1.5e-99;
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RESULT 5 US-09-604-871-2

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TITLE OF INVENTION: ERYTHROPOIETIN CONJUGAT
FILE REFERENCE: 1097 nonprovisional
CURRENT APPLICATION NUMBER: US/09/604,938
CURRENT FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: 60/166,151
PRIOR FILING DATE: 1999-11-17
PRIOR FILING DATE: 1999-08-13
PRIOR APPLICATION NUMBER: 60/151,548
PRIOR FILING DATE: 1999-08-23
PRIOR FILING DATE: 1999-08-23
PRIOR FILING DATE: 1999-08-23
PRIOR FILING DATE: 1999-08-23
PRIOR FILING DATE: 1999-07-02
NUMBER OF SEQ ID NOS: 3
SOFTWARE: Patentin Ver: 2.1
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-604-871-2
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                                                                  Matches
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TYPE: PRT
ORGANISM: Homo sapiens
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APPLICANT:
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PRIOR TILING DATE: 1999-08-05
PRIOR APPLICATION NUMBER: 60/1
PRIOR FILING DATE: 1999-07-02
NUMBER OF SEQ ID NOS: 3
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                                                           tch 100.0%; Score 846; DB 4; Length 166; al Similarity 100.0%; Pred. No. 1.5e-99; 165; Conservative 0; Mismatches 0; Indels
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1 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
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Josel, Hans-Peter
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ERYTHROPOIETIN CONJUGATES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ERYTHROPOIETIN CONJUGATES
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                                                              Indels 0;
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-462-941-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-462-941-2
                                                                                                                                                                                                                                                                                                                                                                                    Sequence 37, Application PC/TUS9404361
GENERAL INFORMATION:
APPLICANT: Brigham and Women's Hos
APPLICANT: 75 Francis Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Cox III, George N
APPLICANT: Bolder Biotechnology, Inc.
APPLICANT: Bolder Biotechnology, Inc.
TITLE OF INVENTION: Derivatives of Growth Hormone and Related
FILE REFERENCE: 1102-1-pus
CURRENT APPLICATION NUMBER: US/09/462,941
CURRENT FILING DATE: 2000-01-14
CURRENT FILING DATE: 2000-01-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: 60/052,516 PRIOR FILING DATE: 1997-07-14 NUMBER OF SEQ ID NOS: 41
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Sterne, Kessler, Goldstein & STREET: 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                  STREET: 1100 New CITY: Washington STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Match 100.0%; Score 846; DB 4; Local Similarity 100.0%; Pred. No. 1.5e-99;
                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
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                                                                                         20005-3934
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Wen, Danyi
                                                                                                              U.S.A.
                                                                                                                                                                                                                                                                                                    Showers,
                                                                                                                                                                                                                                                                                                                                                75 Francis Street
Boston, MA 02115
Bunn, H. Franklin
                                                                                                                                                                                                                                                                                                                                                                                                                  Brigham and Women's Hospital
                                                                                                                                                                                                                                                             Erythropoietin Muteins With Enhanced Activity
                                                                                                                                                                                                                                                                                                          Mark O.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 166;
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US-07-903-220-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 100.0%; Score 846; DB 5; Best Local Similarity 100.0%; Pred. No. 1.5e-99; Matches 165; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (202) 371-2540
INFORMATION FOR SEQ ID NO: (5)
SEQUENCE CHARACTERISTICS:
LENGTH: 166 amino acids
TYPE: amino acid
              TELEFAX: (202) 429-0796 INFORMATION FOR SEQ ID NO: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Brown, Scott A.
REGISTRATION UNMBER: 32,724
REFERENCE/DOCKET NUMBER: 12:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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REFERENCE/DOCKET NUMBER: 0627.336PC01
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371_2600
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ATTORNEY/AGENT INFORMATION:
NAME: Cimbala, Michele A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: PRIOR APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS
                                                                                                                                                                         APPLICATION NUMBER: US
FILING DATE: 19920731
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Paul H. Heller
STREET: Kenyon & Kenyon, One Broadway
CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: Herew
                                                      TELEPHONE:
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CHARACTERISTICS:
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                                                         (202) 429-1776
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METHOD FOR THE PURIFICATION OF ERYTHROPOIETIN AND ERYTHROPOIET
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                                                                                                 1248/27
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; TOPOLOGY: 1i
; MOLECULE TYPE:
US-08-883-795A-34
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                                                           Matches 165;
                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 165;
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Best Local Similarity
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                                                                                                                                                                                                                                         TELEPHONE: (416) 364-7311
TELEFAX: (416) 361-1398
INFORMATION FOR SEQ ID NO: 34
                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/883
FILING DATE: 27-JUN-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Gravelle, Micheline
REGISTRATION NUMBER: 40,261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: linear MOLECULE TYPE: pro HYPOTHETICAL: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
CERRATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 193 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Delcuve, Genevieve
APPLICANT: Awang, Gregor
TITLE OF INVENTION: Recombinant DNA Molecules and Expression
TITLE OF INVENTION: Vectors for Tissue Plasminogen Activator
                                                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: STREET: Toronto
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                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             148 PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 192
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
                                                                                                                                                                                     amino acid
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                                                           Conservative
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                                                                                                                                                                      linear
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                                                                                                                                               protein
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                                                       100.0%; Score 846; DB 2; 100.0%; Pred. No. 1.9e-99; tive 0; Mismatches 0;
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Pred. No. 1.9e-99;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 193;
                                                           Indels
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RESULT 12
US-09-813-775C-4
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US-09-552-265B-4
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US-09-813-775C-4
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TITLE OF INVENTION: No. 6555343el chimpanzee erythropoietin (chepo)
TITLE OF INVENTION: polypeptides and nucleic acids encoding the same
FILE REFERENCE: GENENT.057CP1
CURRENT FILING DATE: 2000-04-19
PRIOR APPLICATION NUMBER: US/09/552,265B
CURRENT FILING DATE: 2000-04-19
PRIOR APPLICATION NUMBER: US 09/307307
PRIOR FILING DATE: 1999-05-17
NUMBER OF SEQ ID NOS: 49
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 193
TYPE: DBT 193
                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4, Application US/09813775C Patent No. 6831060
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GENERAL INFORMATION:
                                                                                  SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 100.0%; Score 846; DB 4; Length 193; Best Local Similarity 100.0%; Pred. No. 1.9e-99; Matches 165; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                APPLICANT: Henner, Dennis, J.
TITLE OF INVENTION: No. 6831060el chimpanzee erythropoietin
TITLE OF INVENTION: polypeptides and nucleic acids encoding
FILE REFERENCE: GENENT.057CP2
CURRENT APPLICATION NUMBER: US/09/813,775C
CURRENT FILING DATE: 1999-05-07
                                                                                                                        PRIOR APPLICATION NUMBER: US 09/307307
PRIOR FILING DATE: 1999-05-07
PRIOR APPLICATION NUMBER: US 09/552265
PRIOR FILING DATE: 2000-04-19
NUMBER OF SEQ ID NOS: 52
                                                                                                                                                                                                                                                                                                                                           APPLICANT: DeSauvage, Frederick APPLICANT: Henner, Dennis, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: DeSauvage, Frederick APPLICANT: Henner, Dennis, J.
                                                                                                       NUMBER OF SEQ ID NOS: 52
                 LENGTH: 193
TYPE: PRT
ORGANISM: Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 192
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US-09-554-451-8
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Best Local S
Matches 165
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                                                                                                                                                                                                              Matches 164; Conservative
                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB98/03449
FILING DATE: No. 6680207ember 16, 1998
APPLICATION NUMBER: GB 9723955.2
FILING DATE: No. 6680207ember 14, 1997
INFORMATION FOR SEQ ID NO. 8:
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thes 165;
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SOFTWARE: MS WORD
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/554,451
FILING DATE: 15-May-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: Pillsbury Winthrop, I
STREET: 1100 New York Ave., N.W.
                                                                                                                                                                                                                                                                                                      SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 165 amino acids
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MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Anthony ATKINSON
TITLE OF INVENTION: Detection of Molecules
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
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121
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                        PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGBACRTGD 165
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                                                                                                                                          APPRLICDSRVLQRYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
                                                                                                                                                                                                                                                                                                                       STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
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                                                                                                                                                                                                              1; Mismatches
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Pred. No. 3.5e-99;
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US-09-366-009-34
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: 34:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 08/809,156
FILING DATE: Unknown
APPLICATION NUMBER: JP 294382/1995
FILING DATE: 13-NOV-1995
APPLICATION NUMBER: JP 051847/1996
FILING DATE: 08-MAR-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 977.6507P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/09/366,009
FILING DATE: 02-Aug-1999
CLASSIFICATION: cUnknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
                                                                                                                                                                                                                                                                                                                         SEQUENCE DESCRIPTION: SEQ ID NO: 34:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 39
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 353
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                                                                                                          61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
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PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 397
                     PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                 APPRLICDSRVLQRYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                     APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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CITY: Philadelphia
STATE: PA
                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 412 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 215-875-8394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 19102
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INVENTION: METHOD FOR GENE TRANSFER INTO TARGET
CELLS WITH RETROVIRUS
                                                                                                                                                                                                                                                                                                                                                                                                                                       CHARACTERISTICS:
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Weno, Takashi
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Hashino, Kimikazu
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                                                                                                                                                                                                              Matches 164;
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                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 07-MAR-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/JP96/03254
FILING DATE: 07-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/809,156B
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APPLICATION NUMBER: JP 2:
FILING DATE: 13-NOV-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 0:
                                                                                                                                                                                                                                                                                                        MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 412 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: 215-875-8383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 08-MAR-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: METHOD FOR GENE TRANSFER INTO TARGET TITLE OF INVENTION: CELLS WITH RETROVIRUS NUMBER OF SEQUENCES: 39
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                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: 215-0-394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Weiser, Gerard J. REGISTRATION NUMBER: 19,763 REFERENCE/DOCKET NUMBER: 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Philadelphia
                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
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353
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                                                                                                                                       233 APPRLICDSRVLQRYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAMKRMEVGQQA
                                                                                                    61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
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                  PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 397
                                                                   VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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Ueno, Takashi
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Kato, Ikunoshin
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Takashi
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Pred. No. 1.5e-98;
                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                0
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RESULT 15

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Result
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Maximum Match 100%
Listing first 500
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         Published Applications AA:*

1: /cgn2_6/ptcdata/2/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptcdata/2/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptcdata/2/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptcdata/2/pubpaa/US06_PUBCOMB.pep:*

5: /cgn2_6/ptcdata/2/pubpaa/US08_NEW_PUB.pep:*

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20: /cgn2_6/ptcdata/2/pubpaa/US10B_PUB.pep:*
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    US-09-853-731-1
US-09-945-517-1
3 US-10-014-353-1
4 US-10-241-356-1
5 US-10-441-037-73
5 US-10-411-026-73
5 US-10-411-027-73
6 US-10-634-477-73
6 US-10-410-930-73
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Sequence 1, Appli
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Sequence 7, Appli
Sequence 73, Appl
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ALIGNMENTS

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RESULT 1
US-09-853-731-1
; Sequence 1, Application US/09853731
; Patent No. US20020037841A1
; GENERAL INFORMATION;
; APPLICANT: Papadimitriou, Apollon
; TITLE OF INVENTION: Erythropoietin Composition
; FILE REFERENCE: 20619 US
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CURRENT APPLICATION NUMBER: US/09/853,731
CURRENT FILING DATE: 2001-05-11
PRIOR APPLICATION NUMBER: EP/00110355.5
PRIOR FILING DATE: 2000-05-15
NUMBER OF SEQ ID NOS: 2
SOFTWARE: PatentIn version 3.0
SEQ ID NO 1
LENGTH: 165
TYPE: PRT
ORGANISM: Homo sapiens
US-09-853-731-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/945,517;
CURRENT FILING DATE: 2001-08-30;
NUMBER OF SEQ ID NOS: 2
SOPTWARE: PatentIn version 3.0;
SEQ ID NO 1;
LENGTH: 165;
TYPE: PRT
ORGANISM: Homo sapiens
US-09-945-517-1
                                 US-10-014-363-1
US-10-014-363-1
; Sequence 1, Application US/10014363
; Publication No. US20020115833A1
; GENERAL INFORMATION:
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Matches
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Publication No. US20030104996A1
GENERAL INFORMATION:
APPLICANT: Li, Tiansheng
APPLICANT: Chang, Byeong
APPLICANT: Sloey, Christopher
TITLE OF INVENTION: L-METHIONINE AS A STABILIZER
FILE REFERENCE: A-803
                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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APPLICANT: Burg, Josef APPLICANT: Engel, Alf:
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Pred. No. 1.4e-85;
Mismatches 0;
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APPLICANT: Franze, Reinhard
APPLICANT: Hilger, Bernd
APPLICANT: Schurig, Hartmut Ernst
APPLICANT: Tischer, Wilhelm
APPLICANT: Tischer, Wilhelm
APPLICANT: Wozny, Manfred
TITLE OF INVENTION: Erythropoietin Conjugates
FILE REFERENCE: Case 20805
CURRENT APPLICATION NUMBER: US/10/014,363
CURRENT FILING DATE: 2001-12-11
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentin version 3.1
SEQ ID NO 1
LENGTH: 165
TYDE: DET
                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/241,356
CURRENT FILING DATE: 2002-09-11
PRIOR APPLICATION NUMBER: EP 01122555.4
PRIOR FILING DATE: 2001-09-25
NUMBER OF SEQ ID NOS: 2
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 1
LENGTH: 165
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US-10-241-356-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: TISCHER, WILHELM TITLE OF INVENTION: DIGLYCOSYLATED ERYTHROPOIETIN FILE REFERENCE: 20971
                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Homo
                                                                                                                                                                                                                                            Local
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                   121 PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
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                                                                                       61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                        VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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Pred. No. 1.4e-85;
); Mismatches 0;
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Pred. No. 1.4e-85;
; Mismatches 0;
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RESULT 5 US-10-293-551-1

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; LENGTH: 165
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-293-551-1
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PRIOR FILING DATE: 1999-11-17
PRIOR APPLICATION NUMBER: 60/151,548
PRIOR FILING DATE: 1999-08-13
PRIOR APPLICATION NUMBER: 60/150,225
PRIOR FILING DATE: 1999-08-23
PRIOR APPLICATION NUMBER: 60/142,254
PRIOR FILING DATE: 1999-07-02
NUMBER OF SEQ ID NOS: 3
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                                                                                                                                                                                               TITLE OF INVENTION: ALPHA GALACTOSIDASE A: REMODELING AND GLYCOCONJUGATION OF ALPHA TITLE OF INVENTION: GALACTOSIDASE A FILE REFERENCE: 040853-01-508 CURRENT APPLICATION NUMBER: US/10/411,037 CURRENT FILING DATE: 2003-04-09 PRIOR APPLICATION NUMBER: US 60/328,523 PRIOR APPLICATION NUMBER: US 60/324,692
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CURRENT FILING DATE: 2002-11-14
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                                                                                                                                      APPLICATION NUMBER: US 60/344,692 FILING DATE: 2001-10-19 APPLICATION NUMBER: US 60/387,292 FILING DATE: 2002-06-07
APPLICATION NUMBER: US 60/404,249 FILING DATE: 2002-08-16 APPLICATION NUMBER: US 60/407,527
                                                                                               APPLICATION NUMBER: US 60/391,777 FILING DATE: 2002-06-25
                                                         APPLICATION NUMBER: US 60/396,594 FILING DATE: 2002-07-17
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Zopf, David
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Bowe, Caryn
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                                                                                                               Matches
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SEQ ID NO 73
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Publication No.
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                              PRIOR FILING DATE: 2002-06-25
PRIOR APPLICATION NUMBER: US 60/396,594
PRIOR FILING DATE: 2002-07-17
PRIOR APPLICATION NUMBER: US 60/404,249
PRIOR FILING DATE: 2002-08-16
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CURRENT FILING DATE: 2003-04-09
PRIOR APPLICATION NUMBER: US 60/328,523
PRIOR FILING DATE: 2001-10-10
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NUMBER OF SEQ ID NOS: 75
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PRIOR FILING DATE: 2001-10-19
PRIOR APPLICATION NUMBER: US 60/387,292
PRIOR FILING DATE: 2002-06-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: PROTEIN REMODELING METHODS AND PROTEINS/PEPTIDES PRODUCED TITLE OF INVENTION: METHODS FILE REFERENCE: 040853-01-5053
                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS:
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                                                                                                                                                                                                      LENGTH: 165
TYPE: PRT
ORGANISM: Homo sapiens
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                                                                                                                                   Local Similarity
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                                                                           1 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
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Chen, Xi
VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
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                                       APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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No. US20040063911A1
                                                                                                                   Conservative
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                                                                                                                 100.0%; Score 846; DB 15;
100.0%; Pred. No. 1.4e-85;
tive 0; Mismatches 0;
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Pred. No. 1.4e-85;
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                                                                                                                   Indels
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PRIOR FILING DATE: 2001-10-10
PRIOR PELICATION NUMBER: US 60/344,692
PRIOR APPLICATION NUMBER: US 60/344,692
PRIOR FILING DATE: 2001-10-19
PRIOR APPLICATION NUMBER: US 60/387,292
PRIOR APPLICATION NUMBER: US 60/387,797
PRIOR APPLICATION NUMBER: US 60/391,777
PRIOR FILING DATE: 2002-06-25
PRIOR APPLICATION NUMBER: US 60/396,594
PRIOR APPLICATION NUMBER: US 60/396,594
PRIOR APPLICATION NUMBER: US 60/404,249
PRIOR FILING DATE: 2002-08-16
PRIOR APPLICATION NUMBER: US 60/404,249
PRIOR FILING DATE: 2002-08-16
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US-10-410-962-73
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                                                                              Sequence 73, Application US/10411049 Publication No. US20040082026A1 GENERAL INFORMATION:
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SOFTWARE: PatentIn version 3.2
SEQ ID NO 73
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APPLICANT:
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TYPE: PRT
ORGANISM: Homo sapiens
-10-410-962-73
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APPLICANT: DeFrees, Shawn
APPLICANT: Zopf, David
  APPLICANT: Neose Technologies,
APPLICANT: DeFrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Bayer, Robert
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TITLE OF INVENTION: GRANULOCYTE COLONY STIMULATING FACTOR: REMODELING AND
TITLE OF INVENTION: GLYCOCONJUGATION OF G-CSF
FILE REFERENCE: 040853-01-5054
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CURRENT FILING DATE: 2003-04-09
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DeFrees, Shawn
Zopf, David
Bayer, Robert
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Bowe, Caryn
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Hakes, David
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No. US20040077836A1
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Pred. No. 1.4e-85;
Mismatches 0;
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FILE REFERENCE: 21368
CURRENT APPLICATION NUMBER: US/10/634,477
CURRENT FILING DATE: 2003-08-04
PRIOR APPLICATION NUMBER: 02019100.3
PRIOR FILING DATE: 2002-08-29
NUMBER OF SEQ ID NOS: 1
SOFTWARE: Patentin Ver. 3.1
SEQ ID NO 1
LENGTH: 165
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PRIOR FILING DATE: 2002-06-25
PRIOR APPLICATION NUMBER: US 60/396,594
PRIOR FILING DATE: 2002-07-17
PRIOR APPLICATION NUMBER: US 60/404,249
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR FILING DATE: 2002-08-16
PRIOR PILING DATE: 2002-08-28
NUMBER OF SEQ ID NOS: 75
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CURRENT FILING DATE: 2003-04-09
PRIOR APPLICATION NUMBER: US 60/328,523
PRIOR FILING DATE: 2001-10-10
PRIOR APPLICATION NUMBER: US 60/344,692
PRIOR FILING DATE: 2001-10-19
PRIOR FILING DATE: 2001-10-19
PRIOR APPLICATION NUMBER: US 60/387,292
PRIOR FILING DATE: 2002-06-07
PRIOR FILING DATE: 2002-06-07
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SEQ ID NO 73
Matches 165;
                   Best Local Similarity
                                              Query Match
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APPLICANT: Roeddiger, Ralf
APPLICANT: Walter-Matsui, Ruth
TITLE OF INVENTION: TREATMENT OF DISTURBANCES OF IRON DISTRIBUTION
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                                                                                                      LENGTH: 165
TYPE: PRT
ORGANISM: Homo sapiens
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Bowe, Caryn
Conservative
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                     100.0%; Score 846; DB 16; 100.0%; Pred. No. 1.4e-85;
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  Mismatches
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                                              Length 165;
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RESULT 12
US-10-410-997-73
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; Publication No. US20040126838A1
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US-10-410-930-73
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CURRENT FILING DATE: 2003-04-09
PRIOR APPLICATION NUMBER: US 60/328,523
PRIOR FILING DATE: 2001-10-10
PRIOR APPLICATION NUMBER: US 60/344,692
PRIOR FILING DATE: 2001-10-19
PRIOR APPLICATION NUMBER: US 60/387,292
PRIOR APPLICATION NUMBER: US 60/387,797
PRIOR APPLICATION NUMBER: US 60/381,777
PRIOR APPLICATION NUMBER: US 60/391,777
PRIOR APPLICATION NUMBER: US 60/391,777
PRIOR APPLICATION NUMBER: US 60/396,594
PRIOR APPLICATION NUMBER: US 60/396,594
PRIOR PILING DATE: 2002-07-17
PRIOR PRICE DATE: 2002-07-17
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Best Local Similarity
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PRIOR FILING DATE: 2002-08-16
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR FILING DATE: 2002-08-28
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APPLICANT: Defrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Bayer, Robert
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Bowe, Caryn
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GENERAL INFORMATION:
APPLICANT: Neose Technologies, I
APPLICANT: DeFrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Bayer, Robert
APPLICANT: Hakes, David
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            APPLICANT: Chen, Xi
APPLICANT: Bowe, Caryne
TITLE OF INVENTION: GLYCOPEGYLATION METHODS ANI
TITLE OF INVENTION: METHODS
FILE REFERENCE: 040853-01-9051
CURRENT APPLICATION NUMBER: US/10/411,012
CURRENT FILING DATE: 2003-04-09
PRIOR APPLICATION NUMBER: US 60/328,523
PRIOR APPLICATION NUMBER: US 60/344,692
PRIOR APPLICATION NUMBER: US 60/344,692
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US-10-411-012-73
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Best Local Similarity
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APPLICANT: DeFrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Bayer, Robert
APPLICANT: Hakes, David
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PRIOR FILING DATE: 2001-10-10
PRIOR APPLICATION NUMBER: US 60/344,692
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CURRENT APPLICATION NUMBER: US/10/410,997
CURRENT FILING DATE: 2003-04-09
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PRIOR APPLICATION NUMBER: US 60/407,527
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PRIOR FILING DATE: 2002-06-25
PRIOR APPLICATION NUMBER: US 60/396,594
PRIOR FILING DATE: 2002-07-17
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PRIOR APPLICATION NUMBER: US 60/387,292
PRIOR FILING DATE: 2002-06-07
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Bowe, Caryn
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2001-10-19
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Pred. No. 1.4e-85;
Mismatches 0;
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PRIOR APPLICATION NUMBER: US 60/344,692

PRIOR APPLICATION NUMBER: US 60/387,292

PRIOR PRILING DATE: 2002-06-07

PRIOR PRILING DATE: 70°

PRIOR FILING DATE: 70°

PRIOR APPLICATION NUMBER: US 70°

PRIOR FILING DATE: 70°
; TYPE: PRT ; ORGANISM: Homo sapiens US-10-410-913-73
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PRIOR FILING DATE: 2002-06-25
PRIOR APPLICATION NUMBER: US 60/396,594
PRIOR FILING DATE: 2002-07-17
PRIOR APPLICATION NUMBER: US 60/404,249
PRIOR FILING DATE: 2002-08-16
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR FILING DATE: 2002-08-28
PRIOR FILING DATE: 2002-08-28
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                                                                                         SEQ ID NO 73
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Best Local Similarity
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PRIOR FILING DATE: 2002-08-16
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR FILING DATE: 2002-08-28
                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: GLYCOCONJUGATION METHODS AND PROTEINS/PEPTIDES PRODUCED BY THE TITLE OF INVENTION: METHODS FILE REFERENCE: 040853-01-5081
CURRENT APPLICATION NUMBER: US/10/410,913
CURRENT FILING DATE: 2003-04-09
PRIOR APPLICATION NUMBER: US 60/328,523
PRIOR PELING DATE: 2001-10-10
PRIOR PELING DATE: 2001-10-10
PRIOR PELING DATE: 2001-10-10
PRIOR PELING DATE: 2001-10-19
PRIOR FILING DATE: 2001-10-19
PRIOR FILING DATE: 2001-10-19
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APPLICANT: DeFrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Bayer, Robert
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                                                                                                              SOFTWARE: PatentIn
                                                                                                                               NUMBER OF SEQ ID NOS: 75
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ORGANISM: Homo sapiens
                                                                 LENGTH: 165
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FILING DATE: 2002-66-25
APPLICATION NUMBER: US 60/396,594
FILING DATE: 2002-07-17
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Bowe, Caryn
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Hakes, David
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No. US20040142856A1
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CURRENT APPLICATION NUMBER: US/10/706,701
CURRENT FILING DATE: 2003-11-12
PRIOR APPLICATION NUMBER: 02026342.2
PRIOR FILING DATE: 2002-11-22
NUMBER OF SEQ ID NOS: 1
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 1
LENGTH: 165
TYPE: PRT
ORGANISM: Homo sapiens
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US-10-706-701-1
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                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Neose Technologies,
APPLICANT: DeFrees, Shawn
APPLICANT: Zopf, David
                                                                                                                                                                                                                                    Sequence 73, Application US/10410980 Publication No. US20050031584A1
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APPLICANT: Lehmann, Paul
APPLICANT: Roeddiger, Ralf
APPLICANT: Walter-Matsui, Ruth
TITLE OF INVENTION: TREATMENT OF DISTURBANCES OF IRON DISTRIBUTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 165;
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Best Local Similarity
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APPLICANT: Chen, Xi
APPLICANT: Bowe, Caryn
APPLICANT: Bowe, Caryn
TITLE OF INVENTION: INTERLEUKIN-2: REMODELING AND GLYCOCONJUGATION OF IL-2
FILE REFERENCE: 040853-01-5066
CURRENT APPLICATION NUMBER: US/10/410,980
CURRENT FILING DATE: 2003-04-09
                                                                                                                    APPLICANT:
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                                                                                                                  Zopf, David
Bayer, Robert
Hakes, David
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Pred. No. 1.4e-85;
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US-10-410-897-73
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; ORGANISM: Homo sapiens
US-10-410-980-73
                                                                                                                  PRIOR APPLICATION NUMBER: US :60/328,523
PRIOR FILING DATE: 2001-10-10
PRIOR PELICATION NUMBER: US :60/344,692
PRIOR PELICATION NUMBER: US :60/344,692
PRIOR PELICATION NUMBER: US :60/387,292
PRIOR PELICATION NUMBER: US :60/391,777
PRIOR PELICATION NUMBER: US :60/391,777
PRIOR PELICATION NUMBER: US :60/391,777
PRIOR APPLICATION NUMBER: US :60/396,594
PRIOR APPLICATION NUMBER: US :60/404,249
PRIOR PILING DATE: 2002-08-16
PRIOR PILING DATE: 2002-08-16
PRIOR PILING DATE: 2002-08-16
PRIOR PILING DATE: 2002-08-16
PRIOR APPLICATION NUMBER: US 60/
PRIOR FILING DATE: 2002-08-28
NUMBER OF SEQ ID NOS: 75
SOFTWARE: PatentIn version 3.2
SEQ ID NO 73
LENGTH: 165
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Publication No.
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SEQ ID NO 73
LENGTH: 165
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APPLICANT: Defrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Bayer, Robert
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CURRENT APPLICATION NUMBER: US/10/410,897
CURRENT FILING DATE: 2003-04-09
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Bowe, Caryn
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No. US20050100982A1
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                                                                                                        60/407,527
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-780-297-1
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                                                                                                                                         Sequence 2, Application US/09853731 Patent No. US20020037841A1 GENERAL INFORMATION:
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SOFTWARE: PatentIn version 3.0
SEQ ID NO 1
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Publication No. US20
GENERAL INFORMATION:
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Best Local Similarity
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           APPLICANT: Papadimitriou, Apollon TITLE OF INVENTION: Brythropoietin Composition FILE REFERENCE: 20619 US CURRENT APPLICATION NUMBER: US/09/853,731 CURRENT FILING DATE: 2001-05-11 PRIOR APPLICATION NUMBER: EP/00110355.5 PRIOR FILING DATE: 2000-05-15
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PRIOR FILING DATE: 2000-05-15
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NUMBER OF SEQ ID NOS:
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No. US20040147431A1
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Pred. No. 1.4e-85;
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Pred. No. 1.4e-85;
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APPLICANT: Burg, Josef
APPLICANT: Engel, Alfred
APPLICANT: Engel, Alfred
APPLICANT: Hilger, Reinhard
APPLICANT: Hilger, Bernd
APPLICANT: Schurig, Hattmut Ernst
APPLICANT: Wozny, Manfred
TITLE OF INVENTION: Erythropoietin Conjugates
FILE REFERENCE: Case 2005
CURRENT APPLICATION NUMBER: US/10/014,363
CURRENT FILING DATE: 2001-12-11
NUMBER OF SEQ ID NOS: 5
SOFTWARE: PatentIn version 3.1
SEQ ID NO 2
LENGTH: 166
TYPE: PAT
ORGANISM: Homo sapiens
US-10-014-363-2
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; SEQ ID NO 2
; LENGTH: 166
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-853-731-2
                                                                                                              RESULT 21
US-10-241-356-2
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US-10-014-363-2
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Sequence 2, Application US/10241356
Publication No. US20030077753A1
GENERAL INFORMATION:
APPLICANT: TISCHER, WILHELM
TITLE OF INVENTION: DIGLYCOSYLATED ERYTHROPOIETIN
FILE REFERENCE: 20971
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Matches
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Best Local Similarity
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Publication No. US20020115833A1
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Best Local Similarity
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100.0%; Pred. No. 1.4e-85;
tive 0; Mismatches 0;
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US-10-293-551-2
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PRIOR FILLING DATE: 2000-66-27
PRIOR PELLORION NUMBER: 60/166,151
PRIOR PELLORION NUMBER: 60/151,548
PRIOR APPLICATION NUMBER: 60/151,548
PRIOR FILLING DATE: 1999-08-13
PRIOR PELLORION NUMBER: 60/150,225
PRIOR PELLORION NUMBER: 60/150,225
PRIOR PELLORION NUMBER: 60/150,225
PRIOR PELLORION NUMBER: 60/150,225
PRIOR APPLICATION NUMBER: 60/142,254
PRIOR FILLING DATE: 1999-07-02
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CURRENT FILING DATE: 2002-09-11
PRIOR APPLICATION NUMBER: EP 01122555.4
PRIOR FILING DATE: 2001-09-25
NUMBER OF SEQ ID NOS: 2
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 2
LENGTH: 166
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Publication No. US20030120045A1
GENERAL INFORMATION:
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Best Local S
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                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Homo
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                                                                                                                                                                                                                                                            Local Similarity
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; ORGANISM: Homo sapiens
US-10-400-377-2
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US-10-400-377-2
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Publication No. US20030162949A1

GENERAL INFORMATION:
APPLICANT: Cox III, George N

APPLICANT: Bolder Biotechnology, Inc.

TITLE OF INVENTION: Derivatives of Growth Hormone and Related Proteins
FILE REFERENCE: 4152-1-PUS

CURRENT APPLICATION NUMBER: US/10/400,377

CURRENT FILING DATE: 2003-03-26
                                                                                                                                                                                                                                                                                     SEQ ID NO 2
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PRIOR FILING DATE: 1997-07-14
NUMBER OF SEQ ID NOS: 41
                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/10/400,708
CURRENT FILING DATE: 2003-03-26
PRIOR APPLICATION NUMBER: US/09/462,941
PRIOR FILING DATE: 2000-01-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Cox III, George N
APPLICANT: Bolder Biotechnology, Inc.
TITLE OF INVENTION: Derivatives of Growth Hormone and Related Proteins
FILE REFERENCE: 4152-1-PUS
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PRIOR FILING DATE: 2000-01-14
PRIOR APPLICATION NUMBER: 60/052,516
PRIOR FILING DATE: 1997-07-14
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                                                                                                                                                                                                                         LENGTH: 166
TYPE: PRT
ORGANISM: Homo sapiens
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VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                               APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
                                        APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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ilarity 100.0%;
Conservative (
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                                                                                                                       100.0%; Score 846; DB 14;
100.0%; Pred. No. 1.4e-85;
ative 0; Mismatches 0;
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Pred. No. 1.4e-85;
                                                                                                                                                              Length 166;
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US-10-360-101-227; Sequence 227, Application US/10360101; Publication No. US20040009550A1
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                                                                 US-10-360-101-227
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; ORGANISM: Homo
US-10-298-148-2
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PRIOR FILING DATE: 2002-05-24
NUMBER OF SEQ ID NOS: 309
SOPTWARE: Patentin version 3.1
SEQ ID NO 227
                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
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Best Local Similarity
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SEQ ID NO 2
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  Best Local Similarity
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                                                                                                                                                                                                                                                                                         APPLICANT: Moll, Gert N.
APPLICANT: Leenhouts, Cornelis J.
TITLE OF INVENTION: Export and modification of (poly) peptide in the lantibiotic way
FILE REFERENCE: 2183-5673
CURRENT APPLICATION NUMBER: US/10/360,101
CURRENT FILING DATE: 2003-02-07
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CURRENT FILING DATE: 2002-11-15
PRIOR APPLICATION NUMBER: US/09/462,941
PRIOR FILING DATE: 2000-01-14
PRIOR APPLICATION NUMBER: 60/052,516
PRIOR FILING DATE: 1997-07-14
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APPLICANT: Bolder Biotechnology, Inc.
TITLE OP INVENTION: Derivatives of Growth Hormone
FILE REFERENCE: 4152-1-PUS
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                                                                                OTHER INFORMATION: sequence of erythropoietin
                                                                                                      ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                TYPE: PRT
                                                                                                                                                                        LENGTH: 166
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Pred. No. 1.4e-85;
; Mismatches 0;
Score 846; DB 15;
Pred. No. 1.4e-85;
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                     Length 166;
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APPLICANT: Carr, Fr:
APPLICANT: Carter,
APPLICANT: Jones, T:
APPLICANT: Williams
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Publication No. US20040063917A1
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Best Local
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                  APPLICANT: Gantier, Rene
APPLICANT: Guyon, Thierry
APPLICANT: Drittanti, Lila
APPLICANT: Vega, Manuel
TITLE OF INVENTION: Rational Evolution of Cytokines for Higher
TITLE OF INVENTION: Acid
TITLE OF INVENTION: Molecules and Related Applications
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR FILING DATE: 2002-02-05
NUMBER OF SEQ ID NOS: 72
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/10/467,115
CURRENT FILING DATE: 2003-08-05
PRIOR APPLICATION NUMBER: 01102615.0
PRIOR FILING DATE: 2001-02-06
PRIOR APPLICATION NUMBER: 01103954.2
PRIOR APPLICATION NUMBER: DCT/EP02/01174
PRIOR APPLICATION NUMBER: DCT/EP02/01174
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TITLE OF INVENTION: MODIFIED ERYTHROPOIETIN
TITLE OF INVENTION: REDUCED IMMUNOGENICITY
FILE REFERENCE: MER-114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 16
TYPE: PRT
      REFERENCE:
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Jones, Tim
Williams, S
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Pred. No. 1.4e-85;
; Mismatches 0;
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APPLICANT: Bolder Biotechnology, Inc.

TITLE OF INVENTION: Derivatives of Growth Hormone and FILE REFERENCE: 4152-1-PUS

CURRENT APPLICATION NUMBER: US/10/773,939

CURRENT FILING DATE: 2004-02-05

PRIOR FILLING DATE: 2003-03-26

PRIOR FILLING DATE: 2003-03-26

PRIOR PRIOR APPLICATION NUMBER: US/09/462,941

PRIOR APPLICATION NUMBER: US/09/462,941

PRIOR APPLICATION NUMBER: 00/052,516

PRIOR APPLICATION NUMBER: 60/052,516

PRIOR FILING DATE: 1997-07-14

NUMBER OF SEQ ID NOS: 41

NUMBER OF SEQ ID NOS: 41
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US-10-773-939-2
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Matches
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SEQ ID NO 2
LENGTH: 166
TYPE: PRT
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SOFTWARE: FASTSEQ for Windows Version
SEQ ID NO 201
LENGTH: 166
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ORGANISM: Homo sapiens
PUBLICATION INFORMATION:
DATABASE ACCESSION NUMBER: Genba
DATABASE ENTRY DATE: 1994-11-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/10/658,834A CURRENT FILING DATE: 2003-09-08 PRIOR APPLICATION NUMBER: 60/457,135 PRIOR FILING DATE: 2003-03-21 PRIOR APPLICATION NUMBER: 60/409,898 PRIOR APPLICATION NUMBER: 60/409,898 PRIOR FILING DATE: 2002-09-09
                                                                                                                                                                                                                                       Local
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121 PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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                                                                                                                                                                                                                                       Similarity
                                                                                     VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                            VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                   100.0%;
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Pred. No. 1.4e-85;
); Mismatches 0;
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RESULT 31
US-10-468-496-133
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; ORGANISM: Homo sapiens
US-10-774-149-2
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US-10-774-149-2
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                                               CURRENT APPLICATION NUMBER: US/10/468,496
CURRENT FILING DATE: 2003-09-25
PRIOR APPLICATION NUMBER: 01103954.2
PRIOR FILING DATE: 2001-02-19
PRIOR APPLICATION NUMBER: 01105777.5
PRIOR FILING DATE: 2001-03-08
PRIOR APPLICATION NUMBER: 01106538.0
PRIOR APPLICATION NUMBER: 01106536.4
PRIOR APPLICATION NUMBER: 01106536.4
PRIOR APPLICATION NUMBER: 01107012.5
PRIOR APPLICATION NUMBER: 01107012.5
PRIOR APPLICATION NUMBER: 01107012.5
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                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
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Best Local
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PRIOR APPLICATION NUMBER: US/09/462,941
PRIOR FILING DATE: 2000-01-14
PRIOR APPLICATION NUMBER: 60/052,516
PRIOR FILING DATE: 1997-07-14
NUMBER OF SEQ ID NOS: 41
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CURRENT FILING DATE: 2004-02-05
PRIOR APPLICATION NUMBER: US/10/400,377
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APPLICANT: Bolder Biotechnology, Inc.
TITLE OF INVENTION: Derivatives of Growth Hormone
FILE REFERENCE: 4152-1-PUS
                                                                                                                                                                                                                                                    APPLICANT: Jones, Tim
APPLICANT: Williams, Stephen
APPLICANT: Williams, Anica
TITLE OF INVENTION: METHOD FOR IDENTIFICATION OF T-CELL
TITLE OF INVENTION: EPITOPES AND USE FOR PREPARING MOLIFICE OF INVENTION: IMMUNOGENCITY
FILE REFERENCE: MER-117
                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Carr, Francis J
APPLICANT: Carter, Graham
                    PRIOR
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                    APPLICATION N
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o. US20040180386A1
   DATE
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             : 2001-03-20
NUMBER: 01106899.6
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Pred. No. 1.4e-85;
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US-10-866-540-2
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               Sequence 2, Application US/10866540 Publication No. US20040230040A1 GENERAL INFORMATION:
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SEQ ID NO 133
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Best Local
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APPLICANT: Cox III, George N
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APPLICANT: Cox III, George N
APPLICANT: Bolder Biotechnology, Inc.
TITLE OF INVENTION: Derivatives of Growth Hormone and
FILE REFERENCE: 4152-1-PUS
CURRENT APPLICATION NUMBER: US/10/773,654
CURRENT FILING DATE: 2004-02-05
PRIOR APPLICATION NUMBER: US/04/00,377
PRIOR FILING DATE: 2003-03-03
PRIOR FILING DATE: 2000-01-14
PRIOR FILING DATE: 2000-01-14
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; TYPE: PRT
; ORGANISM: Homo Sapiens
US-10-468-496-133
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Publication No. US20040214287A1
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                            Local Similarity
                     121 PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
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                                                                                                                              61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDXAVSGLRSLTTLLRALGAQKEAIS 120
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PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-856-219-2
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-866-540-2
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CURRENT FILING DATE: 2004-05-27
PRIOR APPLICATION NUMBER: US/10/400,377
PRIOR FILING DATE: 2003-03-26
PRIOR APPLICATION NUMBER: US/09/462,941
PRIOR FILING DATE: 2000-01-14
PRIOR FILING DATE: 2000-01-14
PRIOR APPLICATION NUMBER: 60/052,516
PRIOR FILING DATE: 1997-07-14
NUMBER OF SEQ ID NOS: 41
SOFTWARE: Patentin Ver. 2.0
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CURRENT FILING DATE: 2004-06-10
PRIOR APPLICATION NUMBER: US/10/400,377
PRIOR FILING DATE: 2003-03-26
PRIOR APPLICATION NUMBER: US/09/462,941
PRIOR FILING DATE: 2000-01-14
PRIOR FILING DATE: 2000-01-14
PRIOR FILING DATE: 1997-07-14
NUMBER OF SEQ ID NOS: 41
SOFTWARE: Patentin Ver. 2.0
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                                                                                                                                                         Matches
                                                                                                                                                                            Best Local Similarity
                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                 SEQ ID NO 2
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APPLICANT: Bolder Biotechnology, Inc.
TITLE OF INVENTION: Derivatives of Growth Hormone and Related Proteins
FILE REFERENCE: 4152-1-PUS
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TITLE OF INVENTION: Derivatives of Growth Hormone and Related Proteins
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                                                                                                                                                         165;
                                  61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS
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Pred. No. 1.4e-85;
Mismatches 0;
                                                                                                                                                   Score 846; DB 16;
Pred. No. 1.4e-85;
Mismatches 0;
                                                                                                                                                       Indels
                                                                                                                                                                                            Length 166;
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                                                                                                             Sequence 2, Application US/10866580 Publication No. US20050096461A1 GENERAL INFORMATION:
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NUMBER OF SEQ ID NOS: 41
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 2
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Best Local Similarity
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CURRENT APPLICATION NUMBER: US/10/685,288
CURRENT FILING DATE: 2003-10-13
PRIOR APPLICATION NUMBER: 60/418,106
PRIOR FILING DATE: 2002-10-11
PRIOR APPLICATION NUMBER: 66/418,105
PRIOR FILING DATE: 2002-10-11
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APPLICANT: Bolder Biotechnology, Inc.
TITLE OF INVENTION: Derivatives of Growth Hormone and Related Proteins, and Methods
TITLE OF INVENTION: Thereof
                     APPLICANT: Cox III, George N
APPLICANT: Boider Biotechnology, Inc.
TITLE OF INVENTION: Derivatives of Growth Hormone and
FILE REFERENCE: 4152-1-PUS
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PRIOR FILING DATE: 2003-03-26
PRIOR APPLICATION NUMBER: 09/462,941
PRIOR FILING DATE: 2000-01-14
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PRIOR FILING DATE: 1998-07-13
PRIOR APPLICATION NUMBER: 60/052,516
  CURRENT
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ORGANISM: Homo sapiens
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APPLICATION NUMBER: US/10/866,580
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 846; DB 17; 100.0%; Pred. No. 1.4e-85; rative 0; Mismatches 0;

    See File Wrapper or PALM

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                                                Related Proteins
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CURRENT APPLICATION NUMBER: US/10/773,530
CURRENT FILING DATE: 2004-02-05
PRIOR APPLICATION NUMBER: US/10/400,377
PRIOR APPLICATION NUMBER: US/9/462,941
PRIOR APPLICATION NUMBER: US/9/462,941
PRIOR FILING DATE: 2000-01-14
PRIOR FILING DATE: 1997-07-14
NUMBER OF SEQ ID NOS: 41
SOUTWARE: Patentin Ver. 2.0
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US-10-773-530-2
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-866-580-2
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Best Local Similarity
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TYPE: PRT
ORGANISM: Homo sapiens
-10-773-530-2
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APPLICANT: Bolder Biotechnology, Inc.
TITLE OF INVENTION: Derivatives of Growth Hormone and
FILE REFERENCE: 4152-1-PUS
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PRIOR TILING DATE: 2003-03-26
PRIOR APPLICATION NUMBER: US/09/462,941
PRIOR FILING DATE: 2000-01-14
PRIOR APPLICATION NUMBER: 60/052,516
PRIOR APPLICATION NUMBER: 60/052,516
PRIOR FILING DATE: 1997-07-14
NUMBER OF SEQ ID NOS: 41
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                                                                                                  61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
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                       PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
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PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
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                                                                                                                                                                                                                                                                                  Length 166;
                                                                                                                                                                                                                                           Indels
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TITLE OF INVENTION: Erythropoietin Conjugates
FILE REFERENCE: Case 20805
CURRENT APPLICATION NUMBER: US/10/014,363
CURRENT FILLING DATE: 2001-12-11
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 169
TYPE: PRT
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US-10-014-363-4
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TITLE OF INVENTION: Erythropoietin Composition
FILE REFERENCE: 20619 US
CURRENT APPLICATION NUMBER: US/10/780,297
CURRENT FILING DATE: 2004-02-17
PRIOR APPLICATION NUMBER: US/09/853,731
PRIOR APPLICATION NUMBER: BP/00110355.5
PRIOR APPLICATION NUMBER: EP/00110355.5
PRIOR FILING DATE: 2000-05-15
PRIOR FILING DATE: 2000-05-15
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US-10-780-297-2
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APPLICANT: Engel, Alfred
APPLICANT: Franze, Reinhard
APPLICANT: Hilger, Bernd
APPLICANT: Schurig, Hartmut Ernst
APPLICANT: Tischer, Wilhelm
APPLICANT: Wozny, Manfred
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Publication No. US20040147431A1
GENERAL INFORMATION:
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SEQ ID NO 2
                                                                                                                           Matches
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Best Local :
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                                                                                                                                               Local Similarity
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                                                                                                                           165; Conservative
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61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
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                                                               APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                                                                           100.0%; Score 846; DB 13; 100.0%; Pred. No. 1.4e-85;
                                                                                                                         0; Mismatches
                                                                                                                         Indels
                                                                                                                                                                Length
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NUMBER OF SEQ ID NOS: 5
SOFTWARE: PATENTIN VERSION 3.1
SEQ ID NO 5
LENGTH: 174
TYPE: PRT
ORGANISM: CHO/dhfr-
US-10-014-363-5
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APPLICANT: Engel, Alfred
APPLICANT: Franze, Reinhard
APPLICANT: Hilger, Bernd
APPLICANT: Schurig, Hartmut Ernst
APPLICANT: Tischer, Wilhelm
APPLICANT: Wozny, Manfred
TITLE OF INVENTION: Erythropoietin Conjugates
FILE REFERENCE: Case 20805
CURRENT APPLICATION UNDER: US/10/014,363
CURRENT FILING DATE: 2001-12-11
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US-10-014-363-3
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APPLICANT: Engel, Alfred
APPLICANT: Franze, Reinhard
APPLICANT: Hilger, Bernd
APPLICANT: Schurig, Hartmut Ernst
APPLICANT: Tischer, Wilhelm
APPLICANT: Wozny, Manfred
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                           Sequence 5, Application US/10014363 Publication No. US20020115833A1 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                 TITLE OF INVENTION: Erythropoietin Conjugates FILE REFERENCE: Case 20005
CURRENT APPLICATION NUMBER: US/10/014,363
CURRENT FILING DATE: 2001-12-11
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ORGANISM: CHO/dhfr-
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100.0%; P
ative 0;
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Pred. No. 1.5e-85;
Mismatches 0;
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US-10-113-824-2
Sequence 2, Application US/10113824
Publication No. US20030050269A1
GENERAL INFORMATION:
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US-09-813-775C-4
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 193
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APPLICANT: DeSauvage, Frederick
APPLICANT: Henner, Dennis, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4, Application US/09813775C Publication No. US20030054494A1
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Best Local :
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Best Local Similarity
              APPLICANT: Escary, Jean-Louis
TITLE OF INVENTION: NEW POLYNUCLEOTIDES AND POLYPEPTIDES OF THE ERYTHROPOIETIN GENE
FILE REFERENCE: 021349/0037
CURRENT APPLICATION NUMBER: US/10/113,824
CURRENT FILING DATE: 2002-03-29
RRIOR APPLICATION NUMBER: FR 0104603
PRIOR APPLICATION NUMBER: US 60/343163
PRIOR FILING DATE: 2001-04-04
PRIOR FILING DATE: 2001-12-21
PRIOR FILING DATE: 2001-12-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Henner, Dennis, J.
TITLE OF INVENTION: NO. US200310054494Alel chimpanzee erythropoietin
TITLE OF INVENTION: polypeptides and nucleic acids encoding the sam
FILE REFERENCE: GENENT.057CP2
CURRENT APPLICATION NUMBER: US/09/813,775C
CURRENT FILING DATE: 1999-05-07
PRIOR APPLICATION NUMBER: US 09/307307
PRIOR APPLICATION NUMBER: US 09/307307
PRIOR APPLICATION NUMBER: US 09/307307
PRIOR APPLICATION NUMBER: US 09/552265
PRIOR FILING DATE: 1999-05-07
PRIOR FILING DATE: 2000-04-19
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APPLICATION NUMBER: US 60/345,440
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                                                                                                                                                                                                                                                                                                                                                                                                       PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD
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; PRIOR FILING DATE: 2002-01-04
; PRIOR APPLICATION NUMBER: US 60/358,598
; PRIOR FILING DATE: 2002-02-21
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 2
; LENGTH: 193
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-113-824-2
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LENGTH: 193
TYPE: PRT
ORGANISM: Homo sapiens
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Publication No.
                                                                                                                                             Query Match
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CURRENT FILING DATE: 2003-07-01
PRIOR APPLICATION NUMBER: 60/392,455
PRIOR FILING DATE: 2002-07-01
PRIOR APPLICATION NUMBER: 60/393,423
PRIOR PILING DATE: 2002-07-03
NUMBER OF SEQ ID NOS: 212
SOFTWARE: Patentin version 3.2
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                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Cerami, A.
APPLICANT: Cerami, C.
TITLE OF INVENTION: RECOMBINANT TISSUE PROTECTIVE CYTOKINES AND ENCODING NUCLEIC
TITLE OF INVENTION: ACIDS THEREOF FOR PROTECTION, RESTORATION, AND ENHANCEMENT C
TITLE OF INVENTION: RESPONSIVE CELLS, TISSUES AND ORGANS
FILE REFERENCE: 10165-022-999
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APPLICANT:
APPLICANT:
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APPLICANT: Pedersen,
APPLICANT: Gerwien, J
APPLICANT: Bay, K.
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                                                                                                          al Similarity
165; Conserv
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                                                                    APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
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VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
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Gerwien, J.
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Kallunki, P.
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                                                                                                          Conservative
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                                                                                                      100.0%; Score 846; DB 16;
100.0%; Pred. No. 1.7e-85;
ative 0; Mismatches 0;
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Sequence 112, Application US/1061
Publication No. US/20040122216A1
GENERAL INFORMATION:
APPLICANT: Nielsen, J
APPLICANT: Pedersen, J.
APPLICANT: Gervien, J.
APPLICANT: Bay, K.
                                                                                                                                  RESULT 46
US-10-612-665-112
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SEQ ID NO 22
LENGTH: 193
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APPLICANT: Pedersen, J
APPLICANT: Gerwien, J.
APPLICANT: Bay, K.
APPLICANT: Pedersen, I.
APPLICANT: Leist, M.
APPLICANT: Geist, M.
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APPLICANT:
APPLICANT:
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CURRENT FILLING DATE: 2003-07-01
PRIOR APPLICATION NUMBER: 60/392,455
PRIOR FILING DATE: 2002-07-01
PRIOR APPLICATION NUMBER: 60/393,423
PRIOR FILING DATE: 2002-07-03
NUMBER OF SEQ ID NOS: 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Brines, M.
APPLICANT: Cerami, A.
APPLICANT: Cerami, C.
TITLE OF INVENTION: RECOMBINANT TISSUE PROTECTIVE CYTOKINES AND ENCODING NUCLEIC
TITLE OF INVENTION: ACIDS THEREOF FOR PROTECTION, RESTORATION, AND ENHANCEMENT OF
TITLE OF INVENTION: RESPONSIVE CELLS, TISSUES AND ORGANS
FILE REFERENCE: 10165-022-999
FILE REFERENCE: 10165-022-999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Artificial FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: Description of Artificial Sequence: mutein
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Local Similarity 100.0%;
es 165; Conservation
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Pred. No. 1.7e-85;
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APPLICANT:

Pedersen,

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GENERAL INFORMATION:
APPLICANT: Nielsen, M.
APPLICANT: Gerwien, J.
APPLICANT: Pedersen, L.
APPLICANT: Leist, M.
APPLICANT: Sager, T.
APPLICANT: Brines, M.
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US-10-676-694-10
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SEQ ID NO 10
LENGTH: 193
TYPE: PRT
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Publication No.
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Best Local Similarity
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APPLICANT:
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PRIOR FILING DATE: 2002-07-01
PRIOR PPLICATION NUMBER: 60/393,423
PRIOR FILING DATE: 2002-07-03
NUMBER OF SEQ ID NOS: 212
SOFTWARE: PatentIn version 3.2
                                                                               FILE REFERENCE: 10165-027-999
CURRENT APPLICATION NUMBER: US/10/676,694
CURRENT FILING DATE: 2003-09-30
PRIOR APPLICATION NUMBER: 60/465,891
PRIOR FILING DATE: 2003-04-25
NUMBER OF SEQ ID NOS: 212
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APPLICANT: Brines, M.
APPLICANT: Cerami, A.
APPLICANT: Cerami, C.
TITLE OF INVENTION: RECOMBINANT TISSUE PROTECTIVE CYTOKINES AND ENCODING NUCLEIC TITLE OF INVENTION: ACIDS THEREOF FOR PROTECTION, RESTORATION, AND ENHANCEMENT C TITLE OF INVENTION: RESPONSIVE CELLS, TISSUES AND ORGANS
FILE REFERENCE: 10165-022-999
CURRENT APPLICATION NUMBER: US/10/612,665
CURRENT FILING DATE: 2003-07-01
                                                              SOFTWARE: PatentIn version 3.2
                                                                                                                                                                                                    APPLICANT: Gido, G.
TITLE OF INVENTION: TISSUE PROTECTIVE CYTOKINE RECEPTOR COMPLEX AND ASSAYS FOR IDENT
TITLE OF INVENTION: TISSUE PROTECTIVE COMPOUNDS
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TYPE: PRT
ORGANISM: Artificial
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Sager, T.
Brines, M.
Cerami, A.
Ghezzi, P.
Fiordaliso, F
Fratelli, M.
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Geist,
                                                                                                                                                                                                                                                                                                                                                                                                           Pedersen, L.
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100.0%; Pred. No. 1.7e-85;
tive 0; Mismatches 0;
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APPLICANT: Sager, T.
APPLICANT: Grami, A.
APPLICANT: Ghezzi, P.
APPLICANT: Ghezzi, P.
APPLICANT: Fiordaliso, F.
APPLICANT: Fiscus PROTECTIVE CYTOKINE RECEPTOR COMPLEX AND ASSAYS FOR IDENTII
TITLE OF INVENTION: TISSUE PROTECTIVE CYTOKINE RECEPTOR COMPLEX AND ASSAYS FOR IDENTII
TITLE OF INVENTION: TISSUE PROTECTIVE COMPOUNDS
FILE REFERENCE: 10165-027-999
CURRENT APPLICATION NUMBER: US/10/676,694
CURRENT FILING DATE: 2003-09-30
PRIOR APPLICATION NUMBER: 60/465,891
PRIOR APPLICATION NUMBER: 60/465,891
PRIOR APPLICATION NUMBER: 60/465,891
PRIOR APPLICATION DATE: 2003-04-25
SUMBER OF SEQ ID NOS: 212
SEQ ID NO 22
SEQ ID NO 22
TENCTH: 193
RESULT 49
US-10-676-694-112
; Sequence 112, Ap
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APPLICANT: Gerwien, J.
APPLICANT: Pedersen, L.
APPLICANT: Leist, M.
APPLICANT: Sager, T.
APPLICANT: Sager, T.
APPLICANT: Gerami, A.
APPLICANT: Gerami, A.
APPLICANT: Ghezzi, P.
APPLICANT: Ghezzi, P.
APPLICANT: Gracili, M.
APPLICANT: Gracili, M.
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                                                                                                                                                                                                                                                                                                                                                                    Matches
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Best Local Similarity
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TYPE: PRT
ORGANISM: Artificial
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al Similarity 100.0%;
165; Conservative 0;
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                                                                                                                                                                                                                       61 VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
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No. US20040214236A1
                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 846; DB 16; 100.0%; Pred. No. 1.7e-85;
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Pred. No. 1.7e-85;
Mismatches 0;
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Application US/10676694

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GENERAL INFORMATION:

APPLICANT: Pecker, Iris

TITLE OF INVENTION: HIGH LEVEL EXPRESSION OF RE

TITLE OF INVENTION: HAVING

TITLE OF INVENTION: A MODIFIED 5'-UTR

FILE REFERENCE: 27179

CURRENT FILING DATE: 2004-01-20

NUMBER OF SEQ ID NOS: 13

SOFTWARE: Patentin version 3.2
                                                                                                              ; LENGTH: 193
; TYPE: PRT
; ORGANISM: Homo s
US-10-759-031-10
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CURRENT FILING DATE: 2003-09-30
PRIOR APPLICATION NUMBER: 60/465,891
PRIOR FILING DATE: 2003-04-25
NUMBER OF SEQ ID NOS: 212
SOFTWARE: Patentin version 3.2
SEQ ID NO 112
LENGTH: 193
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US-10-759-031-10
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Best Local S
Matches 165
                                                 Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 165; Conservative 0.
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Publication No. US20050158822A1
                                                                                                                                                                               SEQ ID NO 10
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APPLICANT:
APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: TISSUE PROTECTIVE CYTOKINE RECEPTOR COMPLEX AND ASSAYS FOR IDENTITLE OF INVENTION: TISSUE PROTECTIVE COMPOUNDS FILE REFERENCE: 10165-027-999
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ORGANISM: Artificial
FEATURE:
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nes 165; Conserv
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Pedersen, L.
Leist, M.
Sager, T.
Brines, M.
Cerami, A.
Ghezzi, P.
Fratelli, M.
APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                               Score 846; DB 18;
Pred. No. 1.7e-85;
); Mismatches 0;
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                                                 Indels
                                                                                Length 193;
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                                                                                                                                                              RESULT 52
US-11-021-516-14
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Best Local (
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Sequence 14, Application US/11021516
Publication No. US20050170457A1
GENERAL INFORMATION:
APPLICANT: Centocor, Inc.
APPLICANT: Cunningham, Mark
APPLICANT: Mills, Juliane
APPLICANT: Pool, Chadler
APPLICANT: Pool, Chadler
TITLE OF INVENTION: NOVEL RECOMBINANT PROTEINS WITH N-TERMINAL FREE THIOL
FILE REFERENCE: CEN 5046
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Publication No. US20050170457A1
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APPLICANT: Cunningham, Mark
APPLICANT: Cunningham, Mark
APPLICANT: Mills, Juliane
APPLICANT: Mills, Juliane
APPLICANT: Pool, Chadler
TITLE OF INVENTION: NOVEL RECOMBINANT PROTEINS WITH N-TERMINAL FREE THIOL
FILE REFERENCE: CEN 5046
CURRENT APPLICATION NUMBER: US/11/021,516
CURRENT FILING DATE: 2004-12-23
PRIOR APPLICATION NUMBER: 60/533617
PRIOR APPLICATION NUMBER: 60/533617
PRIOR APPLICATION NUMBER: 60/533617
PRIOR PRIOR DATE: 2003-12-31
NUMBER OF SEQ ID NOS: 20
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NAME/KEY: VARIANT
LOCATION: (193)..(
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NAME/KEY: mat peptide
TOCATION: (28)..(193)
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CURRENT APPLICATION NUMBER: US/11/021,516
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OTHER INFORMATION: TRUNCATION, desArg
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100.0%; Pred. No. 1.7e-85;
htive 0; Mismatches 0;
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US-11-021-516-20
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US-11-021-516-20
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                                                                                                                                                                                                   Query Match
Best Local S
Matches 165
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SEQ ID NO 20
LENGTH: 201
TYPE: PRT
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Publication No. US20050170457A1
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SEQ ID NO 14
LENGTH: 193
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Best Local
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ORGANISM: Homo mapiens
FEATURE:
NAME/KEY: VARIANT
LOCATION: (22)...(22)
OTHER INFORMATION: Q22R
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PRIOR FILING DATE: 2003-12
NUMBER OF CEO --
                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: NOVEL RECOMBINANT PROTEINS WITH N-TERMINAL FREE THIOL FILE REFERENCE: CEN 5046
CURRENT APPLICATION NUMBER: US/11/021,516
CURRENT FILING DATE: 2004-12-23
PRIOR APPLICATION NUMBER: 60/533617
PRIOR APPLICATION NUMBER: 60/533617
PRIOR FILING DATE: 2003-12-31
NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Mills, Juliane APPLICANT: Pool, Chadler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Centocor, Inc. APPLICANT: Cunningham, N
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148
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                   PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                              VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                   APPRLICOSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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100.0%; F
ative 0;
                                                                                                                                                                                                100.0%; Score 846; DB 20; 100.0%; Pred. No. 1.8e-85; Five 0; Mismatches 0;
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Pred. No. 1.7e-85;
); Mismatches 0;
                                                                                                                                                                                                                                 Length 201;
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RESULT 54

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APPLICANT: DOMG-BOX, LEE
APPLICANT: MYUNG-SUK, OH
APPLICANT: MYUNG-SUK, OH
APPLICANT: BO-SUP, CHUNG
APPLICANT: BO-SUP, CHUNG
APPLICANT: KI-WAN, KIM
TITLE OF INVENTION: FUSION PROTEIN HAVING ENF
TITLE OF INVENTION: ERYTHROPOIETIN
FILE REFERENCE: 58105 (71970)
CURRENT FILING DATE: 2002-08-29
PRIOR APPLICATION NUMBER: 2001-74975
PRIOR FILING DATE: 2001-71-29
NUMBER OF SEQ ID NOS: 18
SOFTWARE: PATENTIN VET. 2.1
SEQ ID NO 4
LENGTH: 209
TYPE: PRT
TOCANICM: AFFIFICIAL SEQUENCE
                                                                                                                                                                 APPLICANT: Lee, Dong-eok
APPLICANT: Park, Ji-sook
APPLICANT: Park, Ji-sook
APPLICANT: Chung, Bo-sup
APPLICANT: Kim, Ki-wan
APPLICANT: Kim, Ki-wan
APPLICANT: Oh, Myung-suk
TITLE OF INVENTION: Pusion protein having ar
FILE REFERENCE: 401729/YPLEB
CURRENT FILING DATE: 2002-07-17
PRIOR APPLICATION NUMBER: US/10/196,183
CURRENT FILING DATE: 2002-07-17
PRIOR APPLICATION NUMBER: KR 10-2001-75994
PRIOR FILING DATE: 2001-12-03
NUMBER OF SEQ ID NOS: 10
SOPTWARE: Patentin version 3.1
SEQ ID NO 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
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OTHER INFORMATION: Description of Artificial Sequence: Fusion protein
OTHER INFORMATION: (ESTP) of erythropoietin (EPO) and carboxy terminal
OTHER INFORMATION: peptide (STP) of human thrombopoietin
OTHER INFORMATION: Fusion priotein (EATP) of erythropoietin (EPO) and a variant of c OTHER INFORMATION: arboxy terminal peptide (ATP) of human chorionic gonadotropin (HC OTHER INFORMATION: G) beta subunit
                                                                                             TYPE: PRT ORGANISM: Artificial Sequence
                                                                         FEATURE:
                                                                                                                                               LENGTH:
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US-10-435-608-10
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APPLICANT: MYUNG-SUK, OH
APPLICANT: MO-SUP, CHUNG
APPLICANT: JI-SOOK, PARK
APPLICANT: KI-WAN, KIM
TITLE OF INVENTION: FUSION PROTEIN HAVING EN
TITLE OF INVENTION: ERYTHROPOIETIN
FILE REFERENCE: 58105 (71970)
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US-10-230-454-3
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                                                                                                Sequence 10, Application US/10435608
Publication No. US20030235536A1
GENERAL INFORMATION:
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CURRENT FILING DATE: 2002-08-29
PRIOR APPLICATION NUMBER: 2001-74975
PRIOR FILING DATE: 2001-11-29
NUMBER OF SEQ ID NOS: 18
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 3
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Best Local
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APPLICANT: Blumberg, Richard S.
APPLICANT: Lencer, Wayne I.
APPLICANT: Simister, Neil E.
APPLICANT: Bitonti, Alan J.
TITLE OF INVENTION: CENTRAL AIRWAY ADMINISTRATION FOR SYSTEMIC DELIVERY OF THERAPEUTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Description of Artificial Sequence: Fusion protein OTHER INFORMATION: (ELTP) of erythropoietin (EPO) and carboxy terminal OTHER INFORMATION: peptide (LTP) of human thrombopoietin
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TYPE: PRT
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                                                                                                                                                                                                                                         PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                           VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
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100.0%; Pred. No. 2.1e-85;
tive 0; Mismatches 0;
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APPLICANT: Elumberg, Richard S.
APPLICANT: Lencer, Wayne I.
APPLICANT: Simister, Neil E.
APPLICANT: Bitomt; Alan J.
TITLE OF INVENTION: CENTRAL AIRWAY ADMINISTRATION FOR SYSTEMIC DELIVERY OF THERAPEUTI.
FILE REFERENCE: S01383.70011.US
CURRENT APPLICATION NUMBER: US/10/622,108
CURRENT FILING DATE: 2003-07-17
PRIOR APPLICATION NUMBER: US 10/435,608
PRIOR FILING DATE: 2003-05-09
PRIOR FILING DATE: 2003-07-03
PRIOR APPLICATION NUMBER: PCT/US02/21355
PRIOR APPLICATION NUMBER: US 60/364,482
PRIOR APPLICATION NUMBER: US 60/364,482
PRIOR FILING DATE: 2002-03-15
SPOINARE: Patentin version 3.1
SEQ ID NO 10
TENCRUL 478
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-622-108-10
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                                                                                                                                                                                                                                                      Query Match
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Best Local Similarity
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CURRENT APPLICATION NUMBER: US/10/435,608
CURRENT FILING DATE: 2003-05-09
PRIOR APPLICATION NUMBER: PCT/US02/21335
PRIOR FILING DATE: 2002-07-03
NUMBER OF SEQ ID NOS: 27
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                                                    VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
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PPDAASAAPIRTITADTFRKI.FRVYSNFI.RGKI.KI.YTGEACRTGD
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                                                                                                                                                                                                                                 100.0%; Score 846; DB 15; 100.0%; Pred. No. 5.2e-85;
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PRIOR APPLICATION NUMBER: 60/469,600
PRIOR FILING DATE: 2003-05-06
PRIOR APPLICATION NUMBER: 60/487,964
PRIOR FILING DATE: 2003-07-17
PRIOR APPLICATION NUMBER: 60/539,207
PRIOR FILING DATE: 2004-01-26
NUMBER OF SEQ ID NOS: 103
SOFTWARE: PatentIn version 3.1
SEQ ID NO 24
LENGTH: 428
TYPE: PRT
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CURRENT FILING DATE: 2001-10-30
NUMBER OF SEQ ID NOS: 22
SOFTWARE: Patentin version 3.1
SEQ ID NO 22
LENGTH: 435
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Publication No.
Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                              APPLICANT: Sun, Lee-Hwei K
APPLICANT: Sun, Bill N
APPLICANT: Sun, Cecily R
TITLE OF INVENTION: Fc fusion proteins of human erythropoietin with increased biolog:
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TITLE OF INVENTION: IMMUNOGLOBULIN CHIMERIC MONOMER-DIMER HYBRIDS
FILE REFERENCE: 08945.0007-00000
CURRENT APPLICATION NUMBER: US/10/841,250
CURRENT FILING DATE: 2004-05-07
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APPLICANT: Mezo, Adam R
APPLICANT: Rivera, Daniel S
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                                                                                                                                      TYPE: PRT
                                                                                                                ORGANISM: Artificial Sequence
                                                                          OTHER INFORMATION: HuEPO-L-vFc gammal with a 27-amino acid leader peptide (Figure
                                                                                                FEATURE:
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Bitonti, Alan J
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No. US20050032174A1
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Pred. No. 5.2e-85;
  Score
Pred.
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  No. 5.
  DB 10;
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PRIOR APPLICATION NUMBER: 09/932812

PRIOR FILING DATE: 2004-01-21

PRIOR FILING DATE: 2001-08-17

NUMBER OF SEQ ID NOS: 28

SOFTWARE: Patentin version 3.2

SEQ ID NO 22

SEQ ID NO 22
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APPLICANT: Sun, Lee-Hwei K
APPLICANT: Sun, Bill N
APPLICANT: Sun, Cecily R
APPLICANT: Sun, Cecily R
TITLE OF INVENTION: Fc fusion proteins of human erythropoietin with increased TITLE OF INVENTION: biological activities
FILE REFERENCE: 02SUN2004D1
CURRENT APPLICATION NUMBER: US/11/016,518A
CURRENT FILING DATE: 2004-12-17
PRIOR APPLICATION NUMBER: US 09/932,812
PRIOR FILING DATE: 2001-08-17
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CURRENT APPLICATION NUMBER: US/10/761,593A
CURRENT FILING DATE: 2004-01-21
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APPLICANT: Sun, Bill N
APPLICANT: Sun, Cecily R
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ORGANISM: Artificial Sequence
FEATURE:
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OTHER INFORMATION: 2C)
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RESULT 63
US-11-017-185-22
RESULT 64
US-09-932-812-18
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; OTHER INFORMATION:
US-11-016-518A-22
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APPLICANT: Sun, Eacily R
APPLICANT: Sun, Cecily R
APPLICANT: Sun, Cecily R
TITLE OF INVENTION: Fc fusion proteins of human erythropoietin with increased biologi
TITLE OF INVENTION: activities
FILE REPERENCE: 025UN2001D2
CURRENT APPLICATION NUMBER: US/11/017,185
CURRENT FILING DATE: 2004-12-17
PRIOR APPLICATION NUMBER: US 09/932,812
PRIOR APPLICATION NUMBER: US 09/932,812
PRIOR FILING DATE: 2001-08-17
NUMBER OF SEQ ID NOS: 28
SOFTWARE: PatentIn version 3.1
SEQ ID NO 22
FILING DATE: 2001-08-17
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OTHER INFORMATION:
-11-017-185-22
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Publication No. US20050142642A1
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SOFTWARE: PatentIn version
SEQ ID NO 22
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TYPE: PRT
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165; Conservative 0
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Conservative 0
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Pred. No. 5.3e-85;
; Mismatches 0;
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Pred. No. 5.3e-85;
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GENERAL INFORMATION:
APPLICANT: Sun, Lee-Hwei K
APPLICANT: Sun, Bill N
APPLICANT: Sun, Bill N
APPLICANT: Sun, Cecily R
TITLE OF INVENTION: Fc fusion proteins of human ex)
FILE REFERENCE: 02SUN2001
CURRENT APPLICATION NUMBER: US/09/932,812
CURRENT FILING DATE: 2001-10-30
NUMBER OF SEQ ID NOS: 22
SOFTWARE: PATENTIA VETSION 3.1
SEQ ID NO 18
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US-10-761-593A-18
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APPLICANT: Sun, Cecily R
TITLE OF INVENTION: Fc fusion proteins of hum
TITLE OF INVENTION: activities
FILE REFERENCE: 02SUN2001-A
CURRENT APPLICATION NUMBER: US/10/761,593A
CURRENT FILING DATE: 2004-01-21
PRIOR APPLICATION NUMBER: 09/932812
PRIOR PILING DATE: 2001-08-17
NUMBER OF SEQ ID NOS: 28
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                                                                    Matches
                                                                                  Query Match
Best Local
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Publication No. US20030082749A1
                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Sun, Lee-Hwei K
APPLICANT: Sun, Bill N
APPLICANT: Sun, Cecily R
                                                                                                                                                    FEATURE:
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                               ORGANISM: Artificial Sequence
                                                                                                                                                                                                                        LENGTH: 436
TYPE: PRT
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TYPE: PRT
ORGANISM: Artificial Sequence
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OTHER INFORMATION:
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                                  APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 60
APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
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                                                                                  100.0%; Score 846; DB 16; 100.0%; Pred. No. 5.3e-85;
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Pred. No. 5.3e-85;
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LENGTH: 436
TYPE: PRT
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                                      SOFTWARE: PatentIn version 3.1
SEQ ID NO 18
LENGTH: 436
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Publication No.
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APPLICANT: Sun, Bill N
APPLICANT: Sun, Cecily R
APPLICANT: Sun, Cecily R
APPLICANT: Sun, Cecily R
TITLE OF INVENTION: Fc fusion proteins of human erythropoietin with increased biologi
TITLE OF INVENTION: activities
FILE REFERENCE: 0.5UN20001D2
CURRENT APPLICATION NUMBER: US/11/017,185
CURRENT FILING DATE: 2004-12-17
PRIOR APPLICATION NUMBER: US 09/932,812
PRIOR APPLICATION NUMBER: US 09/932,812
PRIOR FILING DATE: 2001-08-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: FC fusion proteins of human TITLE OF INVENTION: biological activities FILE REFERENCE: 025UN2004D1 CURRENT APPLICATION NUMBER: US/11/016,518A CURRENT FILING DATE: 2004-12-17 PRIOR APPLICATION NUMBER: US 09/932,812 PRIOR FILING DATE: 2001-08-17 NUMBER OF SEQ ID NOS: 28 SOFTWARE: Patentin version 3.2
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APPLICANT: Sun, Bill N
APPLICANT: Sun, Cecily R
                                                                                                      NUMBER OF SEQ ID NOS: 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: OTHER INFORMATION:
TYPE: PRT ORGANISM: Artificial Sequence
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No. US20050124045A1
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Pred. No. 5.3e-85;
Mismatches 0;
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CUBRENT FILING DATE: 2001-10-30
NUMBER OF SEQ ID NOS: 22
SOFTWARE: Patentin version 3.1
SEQ ID NO 20
LENGTH 2.2
                                                                                                                           Sequence 20, Application US/10761593A
Publication No. US20040175824A1
GENERAL INFORMATION:
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Best Local Similarity
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               APPLICANT: Sun, Lee-Hwei K
APPLICANT: Sun, Bill N
APPLICANT: Sun, Cecily R
TITLE OF INVENTION: Fc fusion proteins
TITLE OF INVENTION: activities
FILE REFERENCE: 02SUN2001-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Sun, Lee-Hwei K
APPLICANT: Sun, Bill N
APPLICANT: Sun, Cecily R
APPLICANT: Sun, Cecily R
TITLE OF INVENTION: Fc fusion proteins of human erythropoietin with increased biologic
FILE REFERENCE: 02SUN2001
CURRENT
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OTHER INFORMATION: HuEPO-L-vFc
OTHER INFORMATION: )
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ORGANISM: Artificial Sequence
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NUMBER: US/10/761,593A
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Pred. No. 5.3e-85;
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Pred. No. 5.3e-85;
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APPLICANT: Sun, Lee-Hwei K
APPLICANT: Sun, Bill N
APPLICANT: Sun, Gedily R
ITITLE OF INVENTION: Fc fusion proteins of human ery
TITLE OF INVENTION: biological activities
FILE REFERENCE: 02SUN2004D1
CURRENT APPLICATION NUMBER: US/11/016,518A
CURRENT FLING DATE: 2004-12-17
PRIOR FILING DATE: 2001-08-17
PRIOR FILING DATE: 201-08-17
NUMBER OF SEQ ID NOS: 28
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; OTHER INFORMATION:
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US-11-016-518A-20
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US-11-016-518A-20
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Best Local S
Matches 165
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SEQ ID NO 20
LENGTH: 437
TYPE: PRT
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PRIOR APPLICATION NUMBER: 09/932812
PRIOR FILING DATE: 2001-08-17
NUMBER OF SEQ ID NOS: 28
SOFTWARE: PatentIn version 3.2
SEQ ID NO 20
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OTHER INFORMATION:
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TYPE: PRT
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               PPDAASAAPLRTITADTERKLERVYSNFLRGKLKLYTGEACRTGD 165
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2B)
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Pred. No. 5.3e-85;
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Search completed: August 23, Job time : 67 secs
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US-11-017-185-20
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Best Local Similarity
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APPLICANT: Sun, Bill N
APPLICANT: Sun, Cecily R
APPLICANT: Sun, Cecily R
APPLICANT: Sun, Cecily R
APPLICANT: Sun, Cecily R
TITLE OF INVENTION: Fc fusion proteins of human erythropoietin with increased biologi
TITLE OF INVENTION: activities
TILE REFERENCE: 0.52UN2001D2
CURRENT APPLICATION NUMBER: US/11/017,185
CURRENT FILING DATE: 2004-12-17
PRIOR APPLICATION NUMBER: US 09/932,812
PRIOR FILING DATE: 2001-08-17
NUMBER OF SEQ ID NOS: 28
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ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 437
                                                                                      148
                                                                                                             121 PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 165
                                                                                                                                                                                                                                                                                                                                                      165;
                                                                                                                                                                             88
                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                  28
                                                                                                                                                                                                                                                                                           1 APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA
                                                                                                                                                                                                    VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 120
                                                                                                                                                                         VEVWQGLALLSEAVLRGQALLVNSSQPWEPLQLHVDKAVSGLRSLTTLLRALGAQKEAIS 147
                                                                                                                                                                                                                                                                APPRLICDSRVLERYLLEAKEAENITTGCAEHCSLNENITVPDTKVNFYAWKRMEVGQQA 87
                                                                                      PPDAASAAPLRTITADTFRKLFRVYSNFLRGKLKLYTGEACRTGD 192
                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 846; DB 20; ilarity 100.0%; Pred. No. 5.3e-85; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HuEPO-L-vFc gamma4 with a 27-amino acid leader peptide (Figure 2B
                    2005, 14:18:57
                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                437;
                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                           60
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